Issue 53 • October 1992 • £2.99

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SUPER CD!

First full test: the on-sale version of the A570 CD-Rom drive

ID CARDS

Two brand new PC and Mac emulators for the 90s

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AMIGA MART

Rossmöller 52Mb hard drive
PC keyboard adaptor

GAMER

Silly Putty – a game that's seriously silly



Award winning innovative products from

Scanners

"If your in the market for a hand scanner then forget the rest and get Powerscan"
Amiga Format — July 1992

Power Scanner v2.0



- 100-400 DPI scanning resolutions
- 64 greyscales
- Thru'port for printer
- Award winning editing, image manipulation & scanning software

Power Scanner v2.0 .... £99
Power Scanner Colour £239

Epson GT-6000



- 600 DPI Colour flatbed scanner
- 24-bit colour
- A4 reading area
- Software included

Epson GT-6000 .... £999

Epson GT-8000

- 800 DPI colour flatbed scanner
- 24-bit colour
- A4 reading area
- Software included
- Amazing scan quality

Epson GT-8000 .... £1199

Upgrade Offer

If you consider your scanner system to be inferior to the Power Scanner, we will happily upgrade your software and interface. (Power Scanner is compatible with most scanning heads)

Upgrade £49.95

The Amiga can only display 16 greyscales

Floppy Drives

"This drive contains more gadgets than Batman's utility belt"
Amiga Computing — Feb1992

PC880B Power Drive



- Award winning drive manufactured by Power Computing
- Super slim design
- Anti-click (Cures that annoying click)
- Virus blocker (Prevents viruses)
- Built-in backup hardware

PC880B with Blitz Amiga £65
PC880B with Blitz & XCopy £90
PC880B (Cyclone compatible)* £70
PC880B in black case £65

*This drive is only available to registered owners of XCopy Professional. You must provide proof of purchase of XCopy Professional

Power Drives

PC880E Economy drive £49.95
PC881 A500 Internal drive £40.00
PC882 A2000 Internal drive £45.00

Dual Drive

- Two high quality disk drives built into one compact unit
- Same features as PC880B

Dual drive £125

Drive Accessories

A500 Internal anti-click board £9.95
Maxell multi-colour disks (10) £9.95
Floppy disks bulk supplied .... £POA

Blitz Amiga

- Backup disks at lightning speeds
- Stops all external drives from clicking
- Contains anti-virus from being written into the bootblocker

Blitz Amiga £20

RAM Expansion

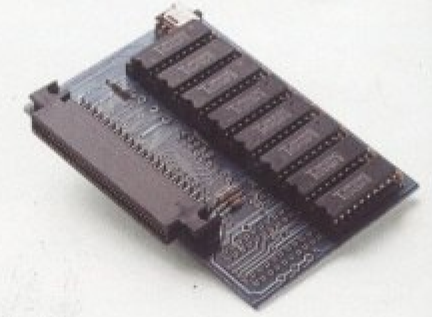
Blizzard Turbo

- A500/A500+
- Expand up to 8MB (0K installed)
- Memory and 68000 CPU run at 14.28MHz
- Fast 68000 processor already installed on-board
- Fully auto-configuring

Blizzard Turbo £169

RAMs continued

A600 Memory Cards



1MB RAM with clock £49.95
1MB RAM without clock £45.00

PC501+ RAM Card

Our RAM board is designed especially for the A500+ computer and comes with 1MB of RAM on board to expand your memory to 2MB of chip RAM. Plug-in and go operation (Fits into the trapdoor)

PC501+ RAM card £39.95

8MB for any A500

- Plugs into side slot, fully auto config, full thru'port. Expand 2MB-8MB

2MB £109 4MB £169 8MB £289
1 x 4ZIP chips £14.95

2MB for any A500

- Economy 2MB RAM externally cased
- 16-chip (1 x 1 DIP)
- No thru'port

2MB RAM £79

1.5MB RAM Board

- Fully supports 1MB of chip RAM
- Fully compatible with Fatter Agnus

(Kickstart 1.3 and above, not compatible with A500+)
(Your Amiga needs to be opened, this may effect your warranty)

1.5MB RAM board £75

1MB with Thru'port

- Expand your A500's memory up to a total of 2MB without disposing of your existing 512K upgrade
- Works with 1MB of Chip RAM

(512K RAM must be 4 chip type or not exceeding 9cm in length)
(Your Amiga needs to be opened, this may effect your Warranty)

1MB with thru'port £45

A500 RAM Card

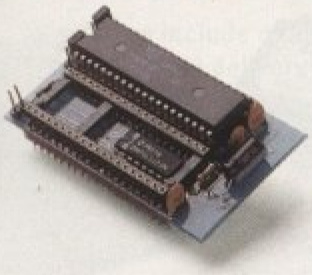
- 512K RAM expansion with clock & free software (A500+ compatible)

512K RAM (4 chip) £29
512KRAM without clock £24
512K RAM (16 chip) with clock £24
512KRAM (16 chip) without clock £19



Power Computing Ltd • Tel 0234 843388

Auto ROM Sharer



- Kick-off is the latest Amiga add-on from Power
- One of the most advanced kickstart ROM sharers available
- A clever design on a small reliable board
- Fits A500 , A500+ , A600 , A1500
- Kickstart ROM can be selected from the keyboard
- No messing about with switches
- Only one compact board to plug-in
- No "CIA adaptor" or other trailing wires
- Jumper to select which ROM boots on switches
- Compatible with old Amiga board revisions
- Simple internal fitting*

* Kick-off requires the lid to be removed from the Amiga. This may invalidate your warranty.

ROM Share	£17.95
ROM Share inc. kickstart v2.04	£55
ROM Share inc. kickstart v1.3	£39

Kickstart v2.04

2.04 Kickstart (chip only)	£39.95
2.04 Kickstart ROM, workbench software, install disk 2.04, font disk & extras	£99.95
2.04 kit with ROM sharer	£115.00

Joysticks

- Made by Quickshot
- High quality construction
- Ergonomic Bio-grips
- Turbo-fire capability

Aviator 1

- Aircraft control yoke
- 4 fire buttons
- Turbo fire
- Altitude / level indicator
- The ultimate joystick
- Player 1/2 selector

Aviator 1	£35.00

Intruder 1

- Dual speed turbo fire
- Omnidirectional grip
- Eject button for fire button cover

Intruder 1	£29.99
Maverick 1	£15.99
Python 1	£9.99
Apache 1	£7.99

A500 Hard Drives

GVP A530 Turbo HD



- 40MHz 68030EC accelerator
- Optional 68882 maths co-processor
- Up to 8MB 32-bit FASTRAM on-board
- Award winning

52MB HD 0MB RAM	£729
105MB HD 0MB RAM	£869
240MB HD 0MB RAM	£1069
68882 Upgrade kit	£239

GVP Series 2 HD

- Up to 8MB FASTRAM on board

52QMB 0MB	£349	105QMB 0MB	£479
52QMB 2MB	£399	105QMB 2MB	£529
52QMB 4MB	£450	105QMB 4MB	£579
52QMB 8MB	£529	105QMB 8MB	£719

ICD Novia Internal HD

- Fits inside your Amiga 500
- Comes complete, just plug-in and go

Novia 60I 60MB HD	£359
Novia 85I 85MB HD	£459

ICD Flicker Fixer

Flicker Free Video 2

- Stop that annoying flicker
- Fits internally in the A500
- Multi-sync monitor required

Flicker Free Video 2	£199
NEC 4FG Multi-sync monitor	£549

Chips

4MB x 8SIMM	£90
1MB x 8SIMM	£25
256K x 4DRAM	£4.00
1MB x 1DRAM	£3.95
1 x 4 ZIP	£14.95
1 x 4 DIP	£19.95
A3000 Static column RAM	£19.95
SIMM 32 x 1MB-60	£65
SIM 32 x 4MB-60	£243

(These chips cover most memory & hard drives i.e. GVP, Supra, Commodore)

Commodore A600

- The new compact Amiga 600
- Built-in TV modulator
- Workbench & kickstart 2
- Enhanced chip set
- 1MB of RAM
- IDE Hard disk controller built-in
- Credit card size ROM & RAM slot

A600 with 2MB	£339
A600 with 20MB inc. 2MB	£499
A600 with 40MB inc. 2MB	£539
A600 with 80MB inc. 2MB	£639

See memory section for latest A600 RAM cards

A600 Internal HD

IBM 40MB Internal HD	£299
IBM 80MB Internal HD	£399

Commodore CDTV



- CDTV player
- Welcome disk + caddy
- Keyboard
- Floppy disk drive (black)
- Wired mouse
- Workbench 1.3 and manuals
- Infrared remote control

CDTV multi-media pack	£599

CDTV Software

A Bun for Barney	£29.99
Barney Bear goes camping	£29.99
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Fun School (Over 7yrs)	£24.99
Guiness CDTV Disc of Records	£34.99
Illustrated Holy Bible	£29.99
Music Maker	£34.99
NASA Heroic Age of Space	£19.99
Power Pinball	£29.99
Sim City	£29.99
Trivial Pursuit	£49.99
World Vista Atlas	£54.99
Xenon 2 Megablast	£29.99

More titles available

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Power products come with full technical support

"The **Power Mouse** is my pick of the month" **CU Amiga**

PC880B "Well worth spending your hard earned pennies on, an excellent buy" **Amiga Computing**

Dual Drive "Now this is a bit special" **Amiga Computing**

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Power Scanner **Amiga Format Gold**

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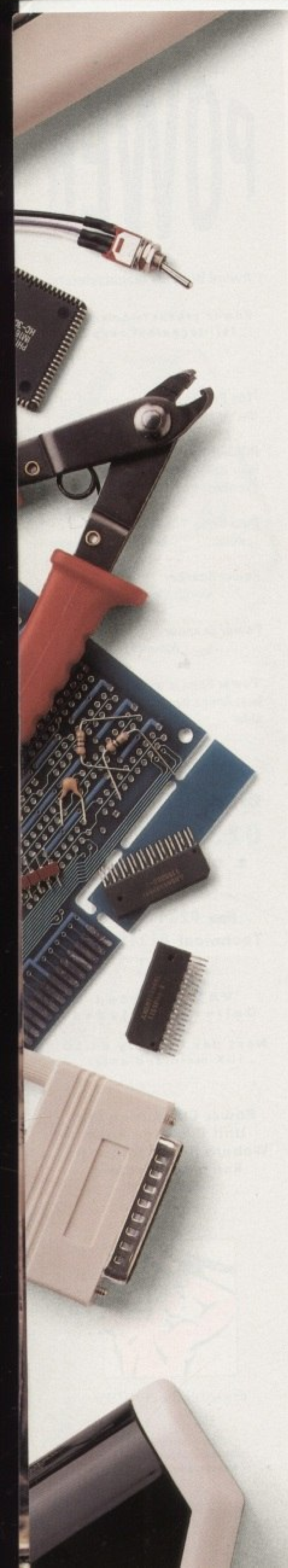
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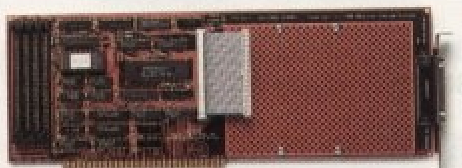
A2000 Hard Cards

GVP Series 2 HD

- Up to 8Mb SIMM RAM on-board
- Supports external SCSI devices
- FaaaST ROM 4.0
- 14MHz SCSI controller

52QMB 0MB £279 105QMB 0MB £479
52QMB 2MB £339 105QMB 2MB £539
52QMB 4MB £399 105QMB 4MB £599
52QMB 8MB £469 105QMB 8MB £749

Nexus Hard Card



- Up to 8MB RAM on-board

Bare £199
52QMB 0MB £279 105QMB 0MB £479
52QMB 2MB £339 105QMB 2MB £539
52QMB 4MB £399 105QMB 4MB £599
52QMB 8MB £469 105QMB 8MB £749

Bare SCSI Hard Drive

52 Quantum .. £199 105 Quantum £299

(Suitable for GVP G-Force, GVP HD or Nexus HC)
Other sizes of HD available, please call

RAM Expansion

- Aries A1500 / A2000 RAM

2MB .... £129 6MB £209
4MB .... £169 8MB £249

Macintosh Emulator

"This really is the best emulator we've seen for the Amiga. It behaves just as if you really were using a Mac"
Amiga Format Sept 1992

AMax-II Plus

- Amiga 1500 and above
- Runs Mac software
- Runs System 7
- Full support for all SCSI Mac peripherals and the ability to read Mac disks in your drives
- 68020/68030 compatible
- AppleTalk emulation
- Can use Amiga ECS
- Easy to install

AMax-II Plus £299
(Mac ROM chips required)

Video

GVP IV 24

- 24-bit video card
- Separate composite and RGB genlocks
- 1.5MB 24-bit frame buffer
- Real-time 24-bit RGB frame grabber/ digitizer
- Flicker fixer
- 780 x 580 PAL resolution
- Picture-in-picture display
- RGB splitter
- Composite Video Out
- Composite S-VHS Video Out
- Software included:
  Calicari IV24 - 3D modelling
  Scala IV24 - titling
  Macropaint IV24 - paint packaging
- 2 year warranty

GVP IV24 .... £1699

Rembrandt

- 24-bit video card
- 16 million colours
- 8MB of high speed video RAM
- Real-time 24-bit image capture
- Software supplied

Rembrandt £2699
Call for availability

Genlock

Microgen genlock £139
Framegrabber v2.0 .... £399

Monitors

"For a monitor of this quality, the CM8833 is worth every penny"
Amiga Format Sept 1992

"The 4FG is an absolutely smashing monitor that beats every competitor"
Amiga Format Sept 1992

Philips CM8833 Mk2

- With cable
- Available with Lotus Turbo Challenge 2 or F19 Stealth Fighter
- On-site maintenance

CM8833 Mk2 .... £199

NEC Multisync 4FG

- For use with Flicker Fixers
- Very high quality
- Built-in degausser

NEC Multisync 4FG £549

Optical Hard Drive



- Manufactured by Power Computing
- 128MB on one optical disk
- Read and write optical disks
- 40ms running speed
- Built-in power supply
- High power cooling fan
- 25-way and 50-way SCSI ports
- Thru'port built-in
- SCSI ID switch
- Compatible with major SCSI controllers

128MB optical drive (Internal) £999
128MB optical drive (External) £1199
128MB 3.5" optical disk .... £39.95 each
SCSI controller card for A1500 / A2000 .... £199
(Compatible with Amiga, PC, and Mac. A SCSI controller is required on the Amiga and PC)

Commodore A1500

- 1MB of RAM
- Two 3.5 internal disk drives
- Fully expandable, accepting all A2000 peripherals
- Keyboard and mouse
- Software included
  The Works Platinum Edition
  Delux Paint III
  Home Accounts
  Puzznic game
  Toki game
  Elf game

A1500 .... £599

Accelerator

GVP G-Force

- 68030 accelerator board
- 68882 Maths co-processor
- DMA SCSI controller on-board
- 68000 fall-back mode
- Only CPU slot is used
- Internal and external SCSI connector
- Converts to hard card with Hard Drive mount kit
- 32-bit RAM as standard

25MHz 1MB RAM £579
40MHz 4MB RAM £949
50MHz 4MB RAM £1349
Hard drive mount kit £35

Power Computing Ltd ▪ Tel 0234 843388

Printers

All printers include cables and next day delivery

Star Printers

LC200 colour £199
LC24-200 mono £239
LC24-200 colour £289

Citizen Printer

Swift 24e £279
(includes colour kit and AMI)

Epson Printers

Laser

EPL 4000

- Ideal 'First time' Laser printer
- Print speed of 6ppm
- Print superb quality text and graphics
- Ideal upgrade from dot-matrix

EPL-4000 .... £639

EPL 4300

- High quality laser printer
- Print speed of 6ppm
- 1MB memory
- Expand to 6MB
- Adobe postscript option
- 100 sheet tray

EPL-4300 .... £799

EPL-8100



- Prints speed of 10ppm
- 1MB memory expandable to 6MB
- Microsoft printing
- Ritech
- 27 font
- 250 sheet papertray
- Adobe postscript option
- Intelligent/Remote emulation switching
- Parallel/Serial interface
- Networking capabilities
- Can serve 2-3 users
- Shared printing

EPL-8100 .... £1349

Inkjet

SQ-870

- New generation inkjet
- Advanced paper handling
- Print scalable fonts
- 660cps print speed
- 360 x 360 DPI print quality
- 128K printer buffer
- Handles four paper types

SQ-870 .... £509
SQ-1170 .... £629
(Wide paper feed)

Dot Matrix

LQ570

- Four feed paths
- Flexible paper management
- 225cps print speed
- Easy access control panel
- Memory stores around 4 full pages of text
- Print text and graphics
- Optional sheet feeders
- Optional tractor feeder

LQ-570 .... £289
LQ-1070 .... £449
(132 column printer)

LQ-100

- 24-pin
- 250cps print speed
- Space saving
- Scalable fonts
- Enhanced graphics
- 50 sheet A4 paper tray
- Dual position design
- Optional tractor feed
- LQ-100 fits in anywhere!

LQ-100 .... £209

LX-100

- 9-pin
- Tractor feed
- Cut sheet feeder
- Cables

LX100 .... £189

Modems

Supra Modems

- High quality
- Award winning
- High spec

GOLD

Supra Fax Modem Plus £136
Supra Fax Modem v32Bis £295
Supra Modem 2400 (External) £91
Supra Modem 2400 ZIplus (Internal) .. £134
Supra 9600 .... £POA

Progressive Peripherals

Call for availability

Progressive 040/3000

- 28MHz Motorola 68040
- Directly accesses 32-bit memory on A3000
- Over four times the speed of a standard A3000
- Amiga DOS 2.0 compatible

4Mb .... £POA

Progressive 040/2000

- 28MHz Motorola 68040
- Built-in Maths co-processor
- Expandable up to 32MB of RAM
- Software Compatible with 68000

4MB .... £POA

Zeus 040/2000

- For the Amiga 2000
- Complete workstation on a single card
- 28MHz or 33MHz 68040 accelerator
- Built-in floating point processor
- 64MB high speed 32-bit RAM expansion
- Fast SCSI-2 DMA hard drive controller

28MHz 4MB .... £POA
33MHz 4MB .... £POA

Progressive 040/500

- For Amiga 500
- 28MHz 68040 with processor
- Up to 40 times the speed of the standard A500
- 4MB of high speed 32-bit RAM
- 68000 fallback mode
- Upgrade to 33MHz and 8MB of high speed RAM

28MHz 4MB .... £POA

Miscellaneous



Power Mouse £15
Optical Mouse £29.95
Replacement optical mouse mat ... £9.95
10 Maxell disks, optical mouse, Zipstick £45
Maxell multi-colour disks (10) £9.95
Floppy disks bulk .... £POA

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Power products come with full technical support

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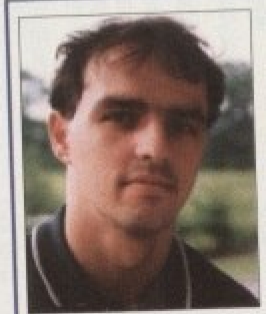
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Established 1985

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Welcome to *Amiga Computing*, the complete package for all Amiga owners.

Covering the full breadth of the Amiga scene with unrivalled authority and up-to-the-minute information, you can find out about the latest game releases as well as top-end graphics, music and publishing packages, all in the same place.

This month, alongside our unrivalled specialist Almanac columns and regular news, Updates and PD sections, you can discover the joys of 12-bit sampling, see how the Amiga can be used in education, and get into print with the third part of our publishing series.

Our renowned ESP and ACAS write-back pages let you have your say, and the CoverDisk contains the usual winning mixture of games, utilities and support files for the magazine proper.

And should you be thinking of buying something, a glance at *Amiga Mart* will ensure that you know what you're getting and how much you should be paying for it.

It's the complete package, every month – it's *Amiga Computing*.

Stevie

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For four years Amiga Computing has been the leading magazine for Amiga enthusiasts. As a key member of the Europress magazine group, *Amiga Computing* promises to inform, educate and entertain its readers each month with the most dedicated coverage of the Amiga available.

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See page 39

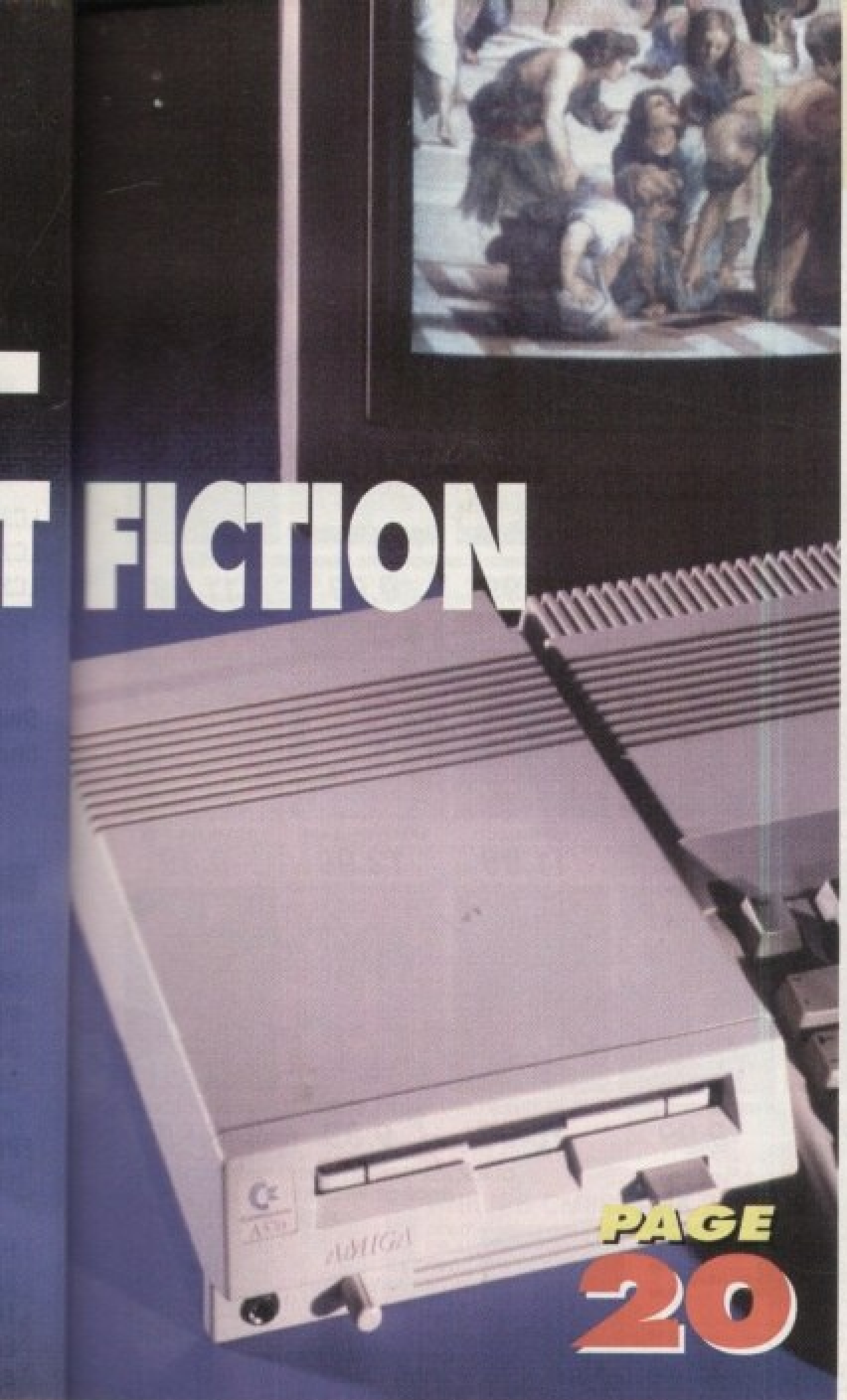
AMIGA MART

Starting on page 131, the best monthly buyers' and shoppers' guide, with reviews, listings, the VFM Top Ten and Classifields. Can you afford to be without it?

A570 – FACTS, NOT F

The first review of the production version of Commodore's revolutionary CD-ROM drive

amiga almanac



CONTENTS



GAMER

PAGE 81

The best of the latest games, plus previews, news and playing guides

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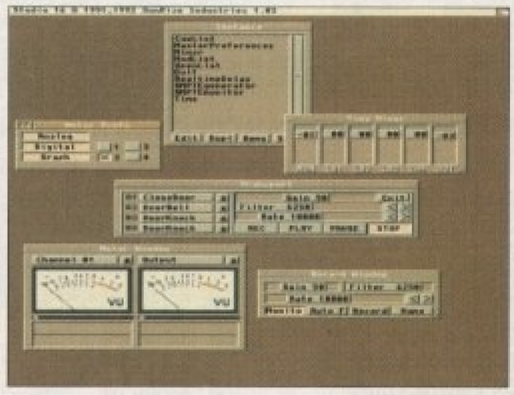
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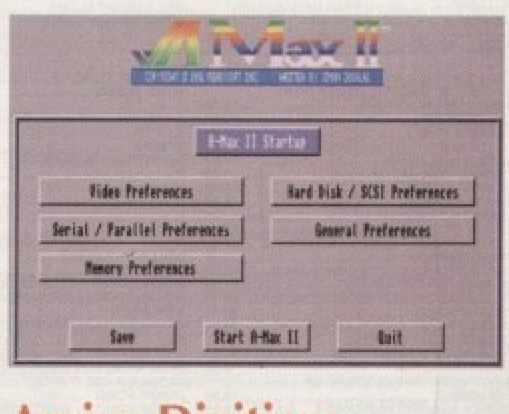
SPECIALS



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Your chance to let us know about yourself, your Amiga, and what you think about *Amiga Computing*





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Taking the timeless Tetris concept into the ultra-addictive fourth dimension

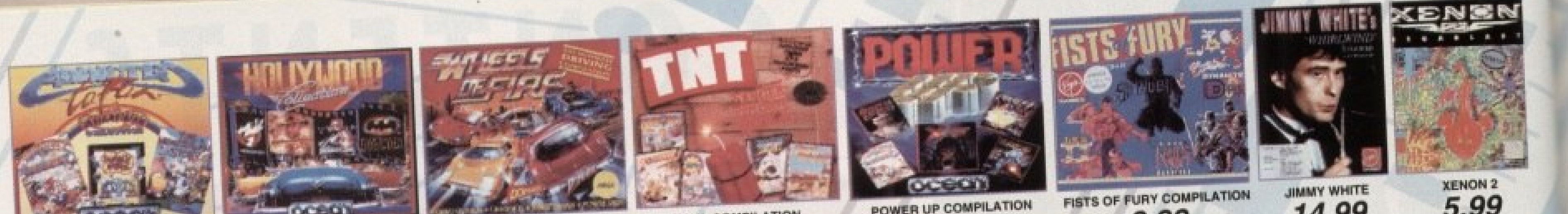


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SNOOPDOS
Keep track of those elusive system accesses to make copies of programs run smoothly and efficiently

CHEQUEBOOK
Can you make your salary cheque last until the next one? Nah, thought not, but Chequebook will at least tell you where it's all gone

VIRUS CHECKER v6.15
The essential, up-to-the-minute release of the best virus checker in the business. Accept no substitute



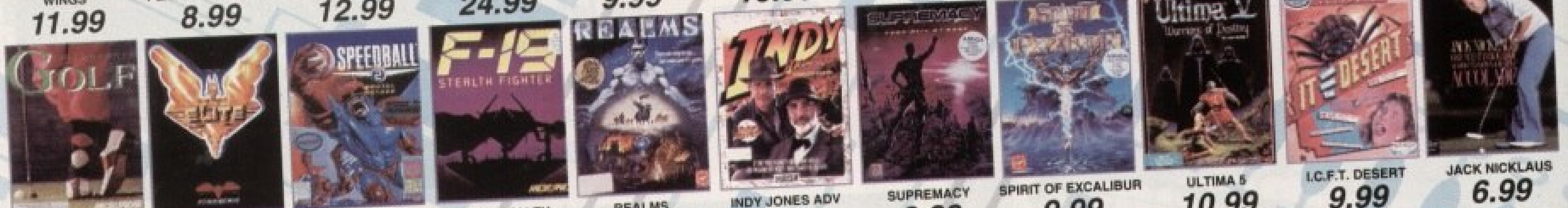
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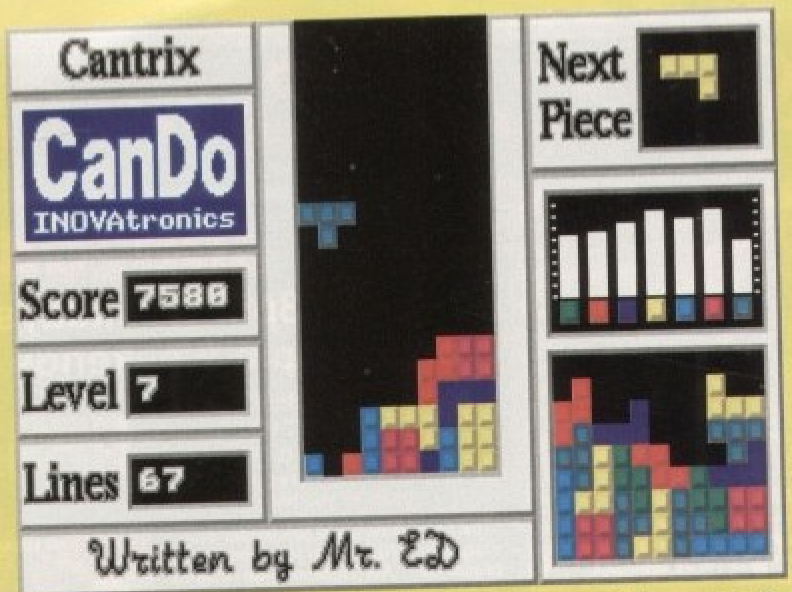
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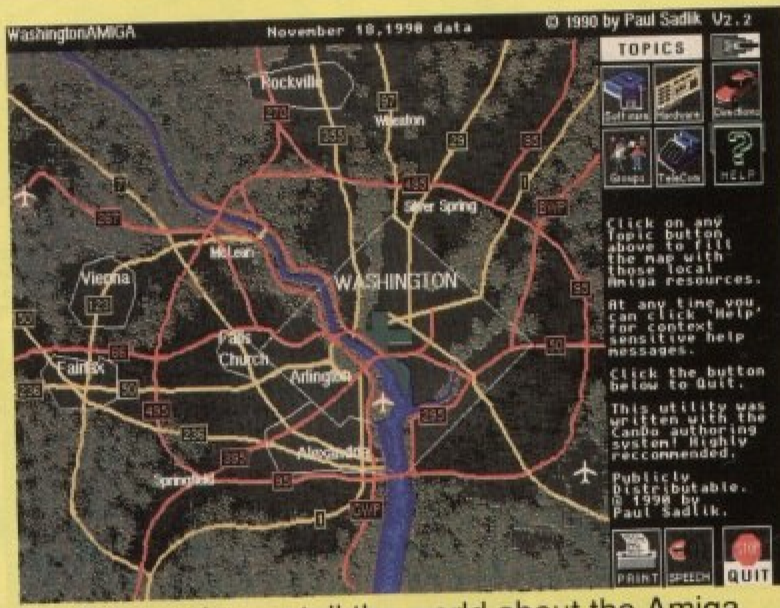
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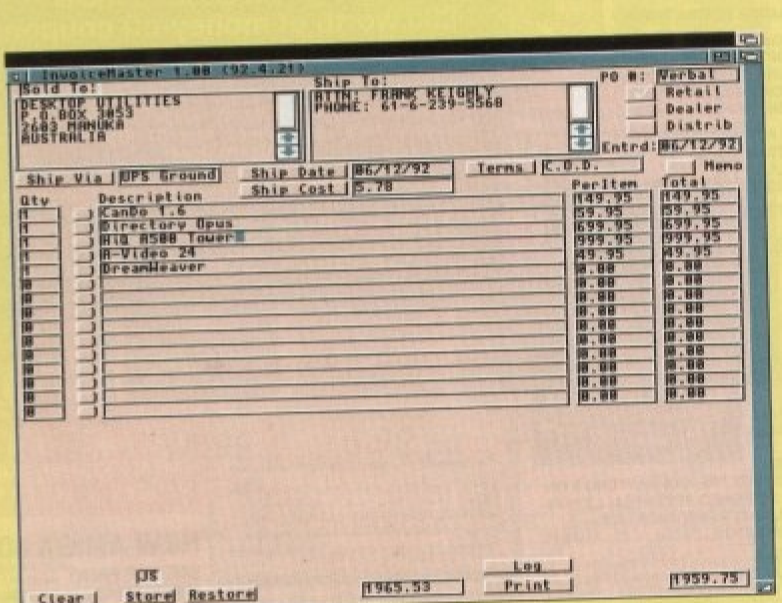
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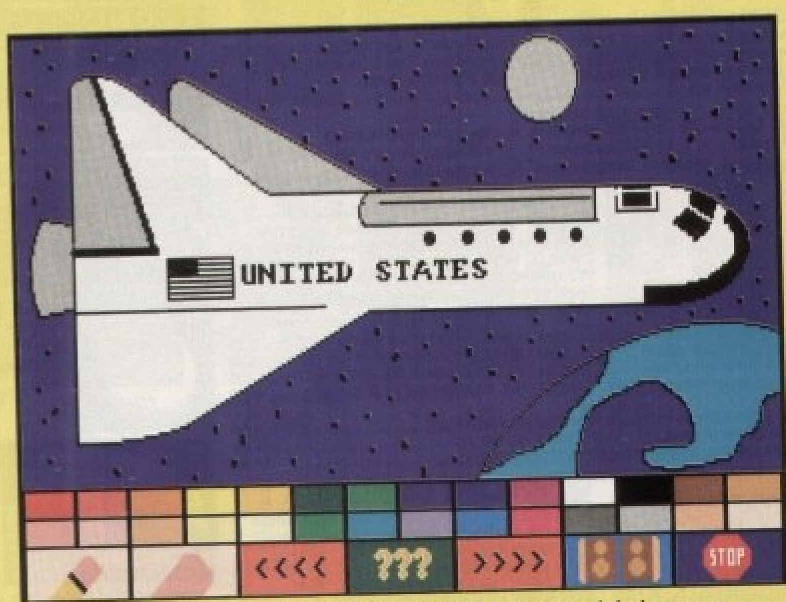
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AMIGA NEWSLINE AMIGA

by John Butters

EXCLUSIVE

Super Amigas due September

COMMODORE have confirmed that new mid and high-end Amigas should be launched in Britain around the end of September, and that production of old mid-range models has already stopped.

The A2200 – which might be renamed the A2400 – is an A1500 and A2000 replacement and is powered by a 68020 processor, while the A4000 will take a seat at the top of the Amiga range.

Like the A2200, the A4000 is rumoured to have 16-bit sound and 256 colours on-screen. Models will be available with either a 68030 or 68040 processor, and buyers of the slower version will be able to upgrade should the need arise.

Commodore UK boss Kelly Sumner refused to comment on pricing except to say they will be "extremely competitive".

Speculation over new machines has been rife for several months, including an Amiga rumoured to be called A800 Classic.



Sumner says prices to be "extremely competitive"

Sumner denies the firm plan to release the A800 and says that an entry-level machine with the new technology will not arrive before the end of next year.

He told our sister trade paper *CTW*: "I think it's very immature for any manufacturer to release or leak product specifications or rumours before they are in a position to market that machine."

Swifter move from Citizen

QUIETER, easier and faster are the claims from printer giant Citizen on their new range of 24-pin dot matrix models.

The Swift 2 series consists of three machines – the Swift 200, Swift 240 and the colour Swift 240C. Each has an expandable 8k buffer and between six and nine letter quality fonts.

All offer a minimal noise level of 44.5dB, a Command Vue Control Panel to make use easier and faster, a facility to allow four pages of text to be produced on the same A4 page and an auto-setup feature.

"The Swift 2 series offers all the benefits previously limited to non-impact technology," claimed Citizen's Julie Haswell.

"It has quiet printing, scalable fonts and in addition offers good quality colour output. We aim to continue building on the success of the Swift brand."

Less failures, more sales say Commodore

THE INTRODUCTION of the A600 with surface mount technology has slashed the entry-level Amiga failure rate from 8.5 to less than 1.5 per cent, Commodore claim.

The figure is based on the first three months of A600 sales, during which time dealers were supplied with 60,000 computers and sold more than 12,000.

The manufacturer say they expect an increase in Amiga sales to 300,000 this year, despite trade expectations that the 16-bit home computer market will lose sales to games consoles. With more Amigas now sold through High Street multiples than small independents, 450 point-of-sale units will demonstrate the A600's capability in shops this Christmas.

This will be accompanied with an "aggressive" advertising campaign being put together by Laing Henry, the firm's newly appointed agency.

Marketing manager Dawn Levack has asked for the campaign to push the expandability and flexibility of the Amiga, pointing out there's more than just games on offer.



Commodore's Kelly Sumner unveils a new point of sale stand for the Amiga

A600 price down to £299

THE A600's price has been slashed to £299 just weeks after Commodore denied cuts were planned or could be afforded.

The company say the move has been made possible by increased reliability of the Amiga and to leave room for a big name bundle later this year.

The cut also makes the Amiga more attractive to people considering whether to buy a computer or games console. Although the A600 will cost about £150 more than consoles, the price gap has been closed considerably.

The A600HD with a 20Mb internal hard drive will continue to sell at £499. Commodore boss Kelly Sumner says the cost of hard drives makes a reduction impossible.

But the A600HD will be bundled with "adult" software in time for Christmas, which Sumner hinted could be a selection of strategy-type games.

Amigas go to casualty

AMIGAS are behind a new information service which has just been admitted into 60 British hospitals for their accident and emergency waiting rooms.

Delivered by Manchester-based Medic Media and funded by local advertising, the system provides patients with hospital notices and information as well as news, weather and entertainment.

Medic Media compile features which are transmitted overnight to Amigas at hospitals participating in the scheme and flexibility means that hospitals can add their own specific information.

Commodore's multimedia sales manager, Tony Haley, said: "Medic Media is a company that understands how multimedia can be used effectively."

Eddie Newton of a participating hospital in Redhill, Surrey adds: "Hospitals are under increasing pressure not only to provide better service but also to generate extra funds. The Medic Media programme fulfils both of these needs admirably."

Fred Fish packed onto CD

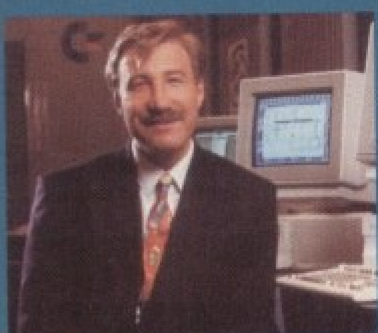
THE A570 CD-ROM drive is being bundled with a compact disc containing £1,000 worth of public domain software.

Volume 2 of the Fred Fish Collection would require 660 floppy disks to hold all its programs and files. The A570 costs £349.99 and the delayed A600 version is due at the end of the year.

Hollender takes top sales job

THERE has been more staff movement at Commodore following the promotion of Kelly Sumner to managing director. Steve Hollender has taken over Sumner's former position as Sales Director.

Hollender joined Commodore as Business Systems Sales Director in October 1991 and had previously been Regional General Manager for Canon's range of office equipment.



Steve Hollender takes Amiga sales seat

Presenting the point

PRESENTERS are targeted for AirMouse Remote Control, a new device for controlling video presentation and multimedia applications shown on large screen monitors and video projection systems.

For use with Amigas and CDTV, AirMouse enables speakers to control presentations from up to ten metres away and by using the two mouse buttons and all normal functions are supported.

Developed by a US-based firm, it is available in Britain from GB International (0908 222233) for £528.75.

New Naksha scanner zooms in

ANOTHER budget-priced hand scanner is being aimed at Amiga users, this time from Naksha, the company best known for their replacement mouse.

Supplied with Migraph Touch-Up software, the scanner has a resolution of between 200 and 400 dots per inch and has four zoom modes.

Dithered scanned images are converted to greyscale, it supports a variety of screen resolutions and has editing features for painting, drawing, special effects and scalable fonts.

Images can be previewed and inverted or made transparent. There are 36 fill patterns in 75, 150 and 300dpi, and a tool for cleaning stray white or black dots from the scan.

Costing £116.33, Naksha can be telephoned on 0925 574375.



Naksha break into scanner market

Europress turn kids creative

CHILDREN will be able to exercise their creative talents in Paint and Create, an education package consisting of several programs due soon from Europress Software (0625 859333).

Art Alive is an art package where kids can create their own pictures, select pre-drawn pictures and add text or colour in an outlined image.

A frightening monster can be developed in Make a Monster. Choosing from a variety of heads, bodies, arms, legs and facial features, the result is measured with a scare-o-meter.

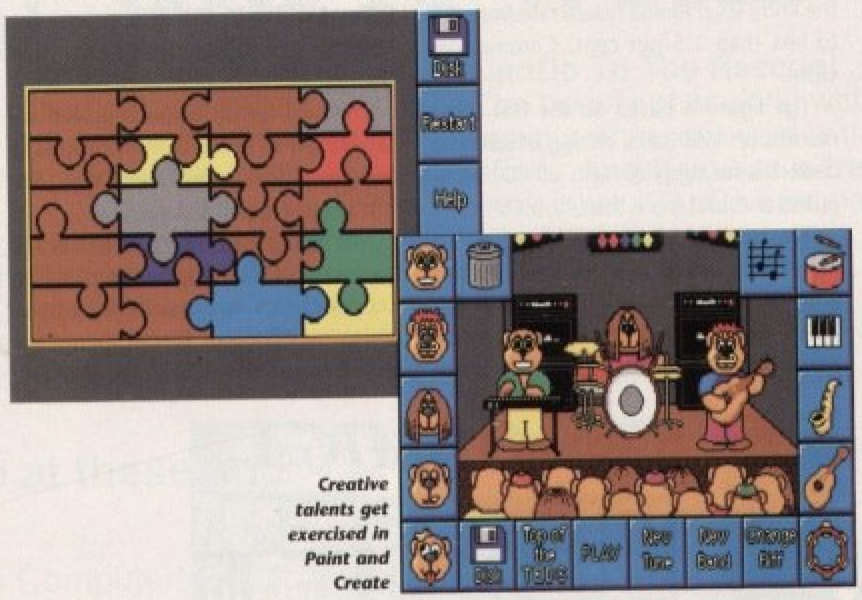
In Jigsaw, pictures are split into between 12 and 120 pieces which can be rotated or flipped to make complex puzzles and in Music Maestro children are able to build a band. Players and instruments can be selected before they are watched and listened to in turn.

Greeting cards for every occasion can be designed and produced in Card Shop. With a selection of seasonal pictures and messages, children can also draw freehand and type their own message.

"It offers children a wide-ranging selection of activities, some with a practical bias, some which are pure fun," said Europress Software boss Chris Payne.

"But they all have one thing in common. They have been specifically designed to spark children's imagination and help them use it to achieve tangible results."

Designed for children over five years old, it will cost £25.99.



Creative talents get exercised in Paint and Create

Texas firm talk comms

PUBLISHING rights to communications software A-Talk III have been signed over from Felsina Software to Amiga software specialist New Horizons (010 1 512 328 6650).

The company have pledged to aggressively market and support the latest addition to their range. In the UK call Silica Systems on 081-309 1111.

Channel 5 interference minimal says Mellor

THE Government and independent experts have quelled fears that millions of Brits would have to have their home computers and games consoles adjusted by engineers if plans for a new television station go ahead.

Some reports in other sections of the computer press say the proposed Channel 5 would transmit on frequencies close to the one used by computers and that people using television sets for their display could expect interference.

But according to computer and television experts few homes will be affected. They say signals from Channel 5 would be lost or become very weak once the aerial is unplugged from the TV set to enable the computer to be connected.

The Government admits there could be some problems. Minister for Fun David Mellor says: "Tests indicate that few will suffer interference provided they are not tuned significantly towards the local Channel 5 channel or situated very close to a Channel 5 transmitter."

BSC give virtual memory

GIGAMEM is a "virtual memory system" being supplied free with BSC's (010 49 89 357 130 0) SCSI controllers and offered to existing owners at a reduced prices.

Software-based it gives MMU-fitted Amigas one gigabyte of simulated memory. It costs DM149 for users of other controllers.

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Lotus Turbo Challenge 2 from Gremlin Graphics takes racing games to new dimensions. Pass through hazardous tunnels; twist along log-strewn tracks; speed over sand drifts. It's an action packed test of your skill and speed - CAN YOU HANDLE IT!

FINAL CHALLENGE EXCHANGE

If you already own a copy of Lotus Turbo Challenge 2, don't worry. You can return the Free copy from your new monitor and, for just £5, Philips will exchange it for "Lotus - The Final Challenge". You can use this new software to design and create your very own racing circuits.

THE COMPETITION

WIN A DAY FOR 2 AT THE 1993 BRITISH GRAND PRIX

Imagine grandstand seats at the most acclaimed event in the Formula One year - The British Grand Prix. Philips will fly you and a friend into Silverstone and there's the chance to meet a famous Formula One personality at a celebrity reception. It's then time to take your grandstand seats for the morning's practice. A delicious 4 course lunch follows; then it's back to your seats for the Grand Prix itself.

It's all part of an exciting first prize package in the Turbo Challenge Competition. And, if you don't get the chequered flag, there are 40 runner-up prizes of Ferrari Testarossa remote control cars.

THE MONITOR

- *14" CGA COLOUR MONITOR*
- *OFFICIAL UK PRODUCT*
- *1 YEAR ON-SITE WARRANTY*
- *FREE! LOTUS TURBO CHALLENGE 2 SOFTWARE*
- *RESOLUTION: 600x285*
- *HORIZONTAL FREQ: 15.6KHz*
- *.42mm DOT PITCH*
- *STEREO AUDIO SPEAKERS*
- *EARPHONE SOCKET*
- *TTL-DIGITAL & RGB-ANALOG COMPUTER INPUT SIGNAL*
- *CVBS VIDEO INPUT SIGNAL*
- *DARK GLASS SCREEN*
- *GREEN SWITCH TO SIMULATE MONO DISPLAY*
- *AMIGA, ST, PC COMPATIBLE*
- *CABLE REQUIRED*
  See Accessories below

USING A TV?

Switch to a monitor and SEE WHAT YOU'RE MISSING!

If you are currently using your Amiga or ST with a domestic television set, then you are missing out on picture quality.

Unfortunately, because your TV is used to receiving inferior UHF transmissions from the airwaves, it only has a UHF socket. So, your computer has to downgrade its high quality digital RGB (Red, Green, Blue) signal to UHF to enable your TV to receive it. However, because your TV can only display using RGB, it has to convert the UHF signal back to RGB before it can put a picture on the screen. Of course, every time you convert from one signal to another, there is a loss of quality which means that the final picture on the TV is not as good as the original signal from your computer.

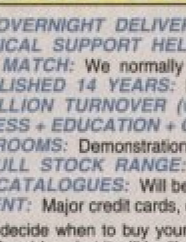
You can overcome this with a monitor, which has an RGB socket, not UHF. Your computer will recognise this, and send its original RGB signal to the monitor which will display the image directly to the screen with no loss of quality.

The Philips 8833 is the best selling colour monitor for the Commodore Amiga and Atari ST. Ideal for game playing, it offers excellent colour graphics and has stereo audio speakers for enhanced stereo output from the Amiga and ST-E. The performance and reliability of the 8833 is exceptional, which is why we are confident to offer 12 months ON-SITE warranty with every Philips 8833 monitor. Plus, every 8833 from Silica comes with FREE Lotus Turbo Challenge 2 software, all for only £199 inc VAT.

RECOMMENDED!

For maximum enjoyment of Lotus Turbo Challenge 2, we are pleased to recommend the best selling Zip Stik Super Pro Joystick. The Zip Stik is probably the best joystick currently available and the world's fastest rapid fire! At only £12.95, it represents superb value for money.

- Durable steel shafted handle
- 8 microswitches
- Handheld/table top
- 2 fire buttons
- Triple action auto-fire
  Single shot
  Short rapid burst
  Megablast continuous fire
- Rubber suction cups
- Extra long lead
- 1 yr g'tee



ZIP STIK PRO
£12.95
MOA 1542



COMPUTER WORK STATION
£49.95
MOA 1290

ACCESSORIES

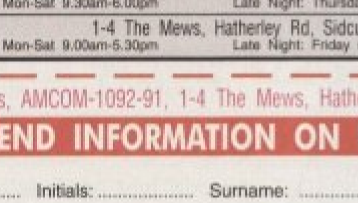
All of the accessories below are suitable for use with the Philips 8833 Colour Monitor



COMPUTER CLEANING AND VACUUM KIT **£19.95**
MOA 1301



TILT & SWIVEL MONITOR STATION
£11.95 MOA 5544



HI-TECH GRIPPA COPY HOLDER
£9.95 MOA 1550

CABLE - £9.95

You will need a cable to connect the Philips 8833 to your computer. These cables are normally £14.95 each but, if you buy one from Silica at the same time as your new monitor, we will give you a £5 discount so you pay only £9.95 inc VAT. Make sure you order the correct cable for your computer.

CAB 5510 - ST-E STEREO SOUND
CAB 5508 - ST-FM MONO SOUND
CAB 5050 - AMIGA STEREO SOUND

SAVE £5!



DUST COVER
£4.95
DUS 1084

ALL PRICES INCLUDE VAT AND FREE DELIVERY IN THE UK MAINLAND

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- *FREE OVERNIGHT DELIVERY:* On all hardware orders shipped in the UK mainland.
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- *THE FULL STOCK RANGE:* All of your requirements from one supplier.
- *FREE CATALOGUES:* Will be mailed to you with offers + software and peripheral details.
- *PAYMENT:* Major credit cards, cash, cheque or monthly terms.

Before you decide when to buy your new monitor, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals and software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, with our unrivalled experience and expertise, we can now claim to meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Systems Service".

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SILICA SYSTEMS

MAIL ORDER: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX **Tel: 081-309 1111**
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LONDON SHOP: 52 Tottenham Court Road, London, W1P 0BA **Tel: 071-580 4000**
Opening Hours: Mon-Sat 9.30am-6.00pm No Late Night Opening Fax No: 071-323 4737

LONDON SHOP: Selfridges (1st Floor), Oxford Street, London, W1A 1AB **Tel: 071-629 1234**
Opening Hours: Mon-Sat 9.30am-6.00pm Late Night: Thursday until 8pm Extension: 3914

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Opening Hours: Mon-Sat 9.00am-5.30pm Late Night: Friday until 7pm Fax No: 081-309 0017

To: Silica Systems, AMCOM-1092-91, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

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Mr/Mrs/Miss/Ms: ...... Initials: .... Surname: ....

Company Name (if applicable): ....

Address: ....

....

.... Postcode: ....

Tel (Home): .... Tel (Work): ....

Which computer(s), if any, do you own?.. 91A

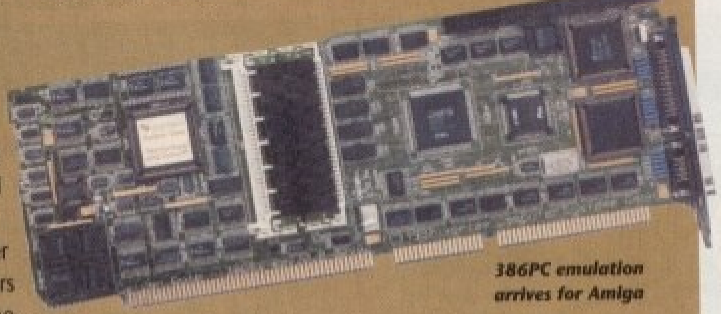
E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

Vortex go for golden emulation

PC EMULATION has progressed with the launch of Golden Gate, the first 386SX emulator for the Amiga.

From German manufacturer Vortex it operates at 25MHz and is also includes a controller for PC/AT IDE hard disks and HD/ED floppy disk drives up to 2.88Mb.

Available for the A2000, A3000 and A3000T, the UK supplier is Silica Systems (081-309 1111). A review of the board appears in this issue. Meanwhile, Vortex say because the A500 is no longer available they have scrapped plans to release a 386 version of ATonce. They are now considering developing a PCMCIA-based 386PC emulator for the A600.



386PC emulation arrives for Amiga

Aiming for better spelling

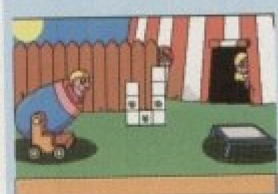
IMPROVING spelling is the aim of Spelling Fair, a new package developed by Europress Software (0625 859333) after press reports revealed appalling literacy in British schools.

The program is suitable for children aged between seven and 13 years old and features six educational games, each with three difficulty levels.

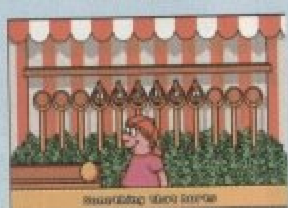
Said Europress Software boss Chris Payne: "Over the last few weeks it has been extensively tested in homes and schools.

"We are now convinced that this one package, covering all the problem areas and including its own built-in dictionary, could revolutionise the teaching of spelling for today's children."

Price: £25.99.



Spelling Fair – the latest program to aim for better spelling



Education in the wind

THE Wind in the Willows is the latest educational adventure from School Software (010 61 415399) which, claim the firm, betters children's reading and creative writing skills.

Taking the role of Mole, the child tries to defend Toad Hall from Weasels by collecting passwords and choosing the correct route to meet other animals. Price: £22.95.

ISDN link for Amigas

EUROPEANS wanting to connect their A2000s and 3000s to the ISDN-network telephone service will soon be offered ISDN-Master, a new plug-in card from BSC (010 49 89 357 130 0).

It enables the use of ISDN video text and telephone services such as conference calls and answering machine as well as data transfer at high baud rates.

Aimed at mailbox systems, graphic studios, video text suppliers and users of wide area networks, the card is claimed to reduce on-line time by 75 per cent.

Each country needs a different version of the board, and the UK card is expected by the end of September. Meanwhile, the firm are looking for UK dealers and distributors for all their products.

● *ISDN stands for Integrated Services Digital Network. It is a hi-tech telephone service which enables voice, fax machines, modems and other devices to be used simultaneously over a single line.*

In Britain installation costs at least £400, with an £84 quarterly rental change. At the moment it is used mainly by large businesses with advanced telephone systems.

Challenge for monitor buyers

AMIGA users buying Philips' popular CM8833/II colour monitor are now given a free copy of Gremlin Graphics' car racing game Lotus Turbo Challenge II.

Last year Philips supplied F-19 Stealth Fighter with the monitor and it is believed the firm are using the offer to make grey import models without the software unattractive. Price: £229.

More fonts for DTP

DESKTOP publishers are being offered 350 Type 1 fonts for use within PageStream and Professional Page 3.0 by Lincoln-based FontShop (0526 398403).

Available in seven volumes of 50 fonts each, the disks include installation instructions with pictorial font previews and support utilities.

And three volumes of Compugraphic fonts have also been released by the firm for users of Pagesetter 2, WB2 and Professional Page 2.

Printers get Star driver

OWNERS of Star printers are being offered Amiga printer drivers which are now distributed free of charge.

All Star dealers have been supplied with masters of the drivers, but the manufacturer says any customer with a problem can call their technical hotline for help on 0494 471111.

Gasteiner add ICD

LONDON-based Gasteiner Technologies (081-365 1151) have announced that they have become distributors for all ICD products including RAM upgrades, hard drives and hard drive controllers.

DO YOU KNOW SOMETHING WE DON'T?

Although *Amiga Computing* has scores of contacts in the Amiga world we need you. If you have some hot news ring John Butters on the news desk now on 0625 878888 or fax to 0625 879966. All information supplied will be treated in the strictest of confidence.

DIARY DATES

5 September 1992
All Formats Computer Fair
Organiser: Bruce Everiss
(0225 868100)
Venue: National Motorcycle Museum, Solihull
Software bargains, many from the public domain

6 to 8 September 1992
European Computer Trade Show Autumn
Organiser: Blenheim PEL
(081-742 2828)
Venue: Business Design Centre
A new trade-only event for the computer leisure industry

5 to 8 November 1992
The Future Entertainment Show
(0225 442244)
Venue: Earls Court 1, London
Plenty of Amiga support, including a major presence from Commodore

19 to 22 November 1992
Christmas Computer Shopper Show
Organiser: Blenheim PEL
(081-742 2828)
Venue: Olympia, London
A few Amiga bits and pieces can be picked up such as disks and dust-covers.

OVERSEAS

8 to 11 October 1992
Computer Shopper Show
Organiser: AMI Shows Europe
(010 49 2234 22021)
Venue: Koln Messe
A chance to catch up on the year's developments in the active Amiga world. Formerly Amiga Koln

26 to 29 November 1992
World of Commodore '92
Organiser: Fairs & Fun
(010 49 8106 34094)
Venue: Frankfurt Exhibition Halls
The main Commodore show in Germany. 100,000 visitors expected

● If your company is organising a show relevant to the Amiga and it's not listed, let us know so we can include the information in the diary.

Whats New USA

Denny Atkin reports...

You can almost feel the anticipation amongs Amiga users here in the US. As this is being written, we're just a month away from the World of Commodore show in Pasadena, California.

The ads for the show in US Amiga magazines promise that we'll see "new hardware". Of course, everyone is speculating that this will be the long-rumoured Amiga 4000. Then again, it could just be the Amiga 600HD, which Commodore finally announced should be available in the US in mid-September.

The US model is the same as the European version, except that it boots in NTSC and includes 40Mb of hard drive storage instead of just 20Mb. Will we see the A4000? Watch this space next month to find out.

Fastest Amiga Yet!

While shivering with anticipation wondering what Commodore were going to announce in September, a surprise press release popped up on my doorstep announcing the new Amiga 3000T-040/200.

This $5,998 (including monitor) machine looks just like the standard tower version of the A3000 on the outside, but inside it sports a 25MHz 68040 microprocessor with on-board maths co-processor, making it the fastest Amiga ever shipped by Commodore.

The 68040 isn't actually on the computer's motherboard, but instead sits on an expansion card that plugs into the 3000T's processor expansion slot. Sources close to Commodore say that the machine may actually ship without the 68030/68882 combination normally found on the A3000T's motherboard.

Like the original A3000T, the machine includes a 200Mb SCSI hard drive; 5Mb of RAM (1Mb Chip, 4Mb Fast), expandable to 18Mb; and Commodore's new 1.76Mb high-density floppy drive (more on this later).

The 68040 card will be available separately as the A3640, for $1,998. Although the processor expansion slots are identical in the A3000 and A3000T, this 20 million-instruction-per-second board is only approved for use in the A3000T.

According to sources within Commodore, the board will technically work in the standard A3000, but the heat generated by the 68040 processor prevents the board's use in the more cramped, less well-ventilated A3000. No matter, as there are third-party 68040 boards that work fine in the standard A3000.

Commodore say "Don't be dense!"

All Amiga 3000T units in the US have shipped with a new floppy drive manufactured by Chinon. This drive will read and write standard 880k Amiga floppy disks, but it also supports high-density disks, storing 1.76Mb of data on a singly floppy.

Using CrossDOS, it can also read high-density 1.44Mb MS-DOS disks. Sounds wonderful, right?

Lots of Amiga users thought so, especially the lucky owners of standard A3000s who plopped high-density disks in their DF0: drives, formatted them, and found out they had the high-density drive. Then the drives appeared on Commodore's replacement parts list, meaning current Amiga owners could order them.

Just as everyone was getting excited at these new double-storage drives, hoping they'd be standard equipment on all Amigas, new A3000s stopped including them, and they became permanently back-ordered on CBM's parts list. What happened? It turns out that the drives don't work properly when installed as DF1: in an A3000 or A2000 – at least, not under AmigaDOS 2.04. And of course, 90 per cent of the people who purchased these drives tried to put them in as DF1:. So we can hope that when AmigaDOS 2.1 ships, we'll see these drives available. I've had one installed in my A2000 for about a month, and it certainly makes backing up the old hard drive more pleasant.

● Next month I'll report from the Pasadena World of Commodore Show, where, along with new hardware and software announcements from Commodore, we'll see "duelling morphing". ASDG will be releasing their long-awaited Morph Plus, but they may see some stiff competition with GVP's surprise announcement of CineMorph.

Fighter Duel Redux

Last year upstart developer Jaeger Software released Fighter Duel: Corsair vs Zero for the Amiga. The program was remarkable in that it allowed 28 frame-per-second air combat animation in hi-res, 640 x 400 mode – while maintaining one of the most realistic flight models in the business.

The game has gathered a huge cult following among US modem users, as it shines best against a human opponent.

Although the initial release was quite impressive, it did have some deficiencies. The enemy computer intelligence was somewhat limited, and aviation aficionados wanted more aircraft choices than just a Corsair or Zero.



Duelling a P-38 Lightning and A6M Zero in Fighter Duel Pro

Well, the company that revolutionised Amiga flight simulators has done it again. Jaeger has announced Fighter Duel Pro, a heavily upgraded version with an incredible set of new features.

Along with the Corsair and Zero, Fighter Duel Pro features the F6F Hellcat, P-47 Thunderbolt, P-38 Lightning, P-51 Mustang, Spitfire MK1 and MK9, Seafire MK2, Hurricane, Tempest IV, N1K George, J7W Shinden, Bf-109E and Bf-109G, and the Focke-Wulf 190.

You can now fly against two computer enemies simultaneously, as well as against another human player over the modem. The program also includes a tournament mode, so BBS and online network users can organise Fighter Duel Pro Tourneys. The program supports digital and analogue joysticks, and – using a special interface – rudder pedals.

It's a little easier to find enemy planes with the program's panorama view, but the true fanatic flight sim buff will choose to use the new Rear View mode.

Using a special parallel cable, you can actually hook a second Amiga up and use it to display a rear view of your aircraft! No more getting bounced from behind because you couldn't reach for the mouse to pan the view. If you've been thinking of buying an A600 or a spare A500, here's your excuse!

Even with all these features, Fighter Duel Pro maintains its incredible frame rate. The program is fully PAL-compatible, and retails for $59.95. It's available from Jaeger Software, 7800 White Cliff Ter., Rockville, MD 20855; (301) 0948-6862.

FOR THE AMIGA

NEW IMPROVED

P.F.M PLUS £$£ £$

PERSONAL FINANCE MANAGER

£39.95

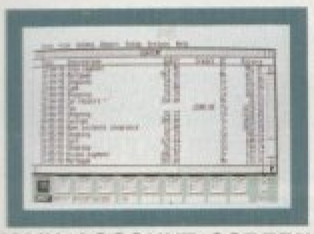


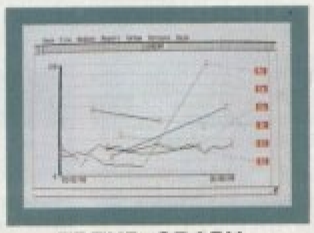
If you run a personal bank account and have an AMIGA then you need "PFM PLUS"

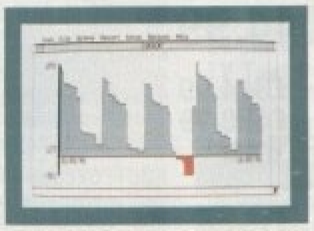
AS EASY TO USE AS A CALCULATOR
PFM PLUS makes full use of the Amiga's window interface to amend or update an entry or Standing Order simply click on it. Your screen looks just like a bank statement!

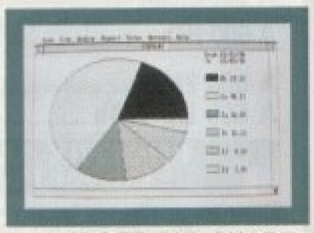
STANDING ORDERS & DIRECT DEBITS EATEN ALIVE
PFM PLUS handles Credit and Debit - Weekly, 4 Weekly Monthly, Quarterly, Yearly and even complicated regular payments like 12 payments of £52.99 followed by one of £12.50, PFM will check the date and automatically insert standing orders as they become due.

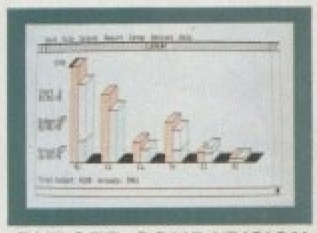
BUDGET WITH EASE, AT A CLICK OF A MOUSE.
If you're the type that likes to look ahead then PFM allows you to set budgets for both expenditure and income. Up to 28 budgets can be set over a year, a quarter or a month and then displayed either in figures or as a bar graph for a given period. Income/Expenditure for these budgets can also be shown as a pie chart so you can tell at a glance where your money's gone. PFM also allows you to display or print your budget groups selectively so you can see your expenditure quickly and easily.


MAIN ACCOUNT SCREEN


TREND GRAPH


BALANCE PLOT GRAPH


BUDGET PIE CHART


BUDGET COMPARISION BAR GRAPH

PERSONAL FINANCE PROGRAM BY PETER VEALE
AMIGA CONVERSION BY DAN LENNARD

Based upon the original highly successful Personal Finance Manager, PFM Plus from Michtron is packed with additional features, improvements and enhancements all designed to give you better control over your money. Take a look at this comprehensive specification.

Multiple Accounts
Each file can hold up ten accounts, each with its own entries and standing orders. Automatic posting of entries between accounts is under full control of the user.

Automatic Standing Orders
Standing orders can be set up for each separate account. Start and end dates can be specified with payment periods of weekly, monthly, quarterly, 6 monthly, yearly or just a single payment.

Entry Posting
Transactions made on one account can be automatically 'posted' to a second account. PFM Plus displays full details of entry sources and destinations. This feature also applies to standing orders.

Multiple Views
Up to 5 views of any one window can be displayed at the same time. this allows different parts of the account to be visible through independent scrolling, or copies of graphs to be displayed covering different time periods. a total of 67 windows are defined.

Account Files
Each file contains accounts and standing order entries, budget details and full information on the sizes and positions of all account windows.

Auto Balance
Automatic account balancing against statement. Facility to continue search for further balance matches.

Upgrading from PFM
PFM Plus includes a utility to convert original PFM Files to the new format, so you need not lose valuable data by upgrading.

Printouts
On-screen displays and printouts for budget comparisons tables and account summaries, in addition to the normal statement and standing order printouts

Printer Formatting
Extensive control over the format of printing statements allowing alternative character pitches, bold underlining and italics printing. Printer control codes defined in separate configuration file.

User Options
Many configuration options can be controlled by the user. Examples include entry defaults, palette, initial path and data file names. All options including desktop icon positions may be saved to disk.

Desktop
PFM Plus uses workbench desktop from which accounts may be selected. The desktop also includes an analog clock and a four function calculator. the calculator can be used even if it is not in the top window. Desktop icons can be re-arranged as required

Graphs
Four different types of graph plot are available. A balance plot, a pie chart showing selected budget categories, a budget comparison bar chart and a trend graph. The trend graph can be used to show long term increases or decreases in your bills. All graphs auto-scale to fit window size.

Search
Account search facility using search mask with wild cards.

Key Short-Cuts
Most mouse and menu operations can also be selected by a key stroke.

Help
On -line help dialogs cover a range of key topics

UPGRADE FOR £15

If you already own Personal Finance Manager and want to upgrade to PFM Plus simply return your original disk with £15 for a full copy of PFM Plus.

IMPROVED FEATURES INCLUDE

- ★ **Handles multiple account with Auto transfer**
- ★ **Full printer report formatting**
- ★ **Graph of Trend Plotting**
- ★ **Desktop Calculator**
- ★ **Increased Budget handling**
- ★ **Extensive user configurable options**

BALANCING WITH YOUR BANK ACCOUNT IS NO LONGER A JUGGLING ACT
When you get your bank account statement or a balance from an autobank machine you can confirm it with PFM quickly and easily. Simply select PFM's unique "Auto Balance" option and type in the balance as given by the bank and PFM will attempt to balance and highlight entries that have not yet been processed through the bank.

OTHER FEATURES

* The number of entries is limited only by memory size
* You define the file size
* Old entries are automatically deleted
* Automatically places entries in date order
* European or U.S.A. date formats
* Balance of account graph
* Moveable and re-sizeable windows
* Run multiple bank accounts by simply using different file names. Multi-Tasking allows Multi-Account access.
* Facility to check off items against statements
* Locates cheques written months ago in seconds
* Selective print features for dates/statements/standing orders and budgets.

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PO BOX 68, St Austell,
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TELE: (0726) 68020. **£40.95** (inc P&P)

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NAME: ....
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PHOENIX

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Our friendly, highly trained sales team will ensure that your order is dealt with efficiently and with the minimum of fuss.



At the time of placing your order we will advise you of anticipated delivery time and answer any other queries you may have regarding your purchase. All major credit cards accepted.

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DESPATCH 0532-310796

Once you have made the decision to purchase from Phoenix your order will be dispatched promptly and without fuss.



Using one of the countries leading courier services ensures that your goods arrive on time, intact and in the same condition they left our stock.

A 600 RAM EXPANSION

Phoenix-the first company to market A500 Plus RAM Upgrades-now introduce the Phoenix PA 601

Features Include • Trapdoor installation Will not invalidate your warranty • Battery backed real time clock • Long life lithium cell • Enable/disable facility • Full installation instructions • Made in U.K. • Complete with famous Phoenix 2 year warranty.

Phoenix PA 601-populated-1Mb.....£44.99
Phoenix PA 601-unpopulated-0Mb...£24.99
Phoenix A 600 ROM Sharer..........£29.99
Keyboard switchable!

AMIGA 600



With its modern compact semi portable wedge shape design, the new 600 is fully featured and can be purchased in the following configurations:

A 600 (incl. Deluxe Paint + software title).. **£274.99**
A 600 HD (inc. 20 Mb Hard Drive).. **£444.99**
A 600 2Mb (incl. above software)......... £314.99
A 600 HD 2Mb £489.99

PHOENIX AMIGA Power Pack

When purchasing any Amiga you can also buy our unbelievable value PHOENIX POWER PACK, which includes over **£100** of quality software and accessories. Probably the best bundle around, just look at what you get!

SOFTWARE
Man Utd Europe • Kick Off 2 • Captive Rick Dangerous • Pro Tennis Tour 2
ACCESSORIES
Fully Microswitched Joystick
50 Capacity 3.5" Disk Box
8mm Mouse mat • 10 Phoenix Branded Disks with Labels

Phoenix Power Pack..............£39.99

AMIGA 1500

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TRAIL BLAZERS-WHAT'S NEW IN SEPTEMBER 1992!

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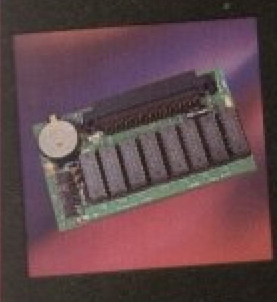
CD ROM DRIVE-A570

Long awaited from commadore, this essential add-on has finally arrived, suitable for A500/A500+, A570 .
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Superbase Pro 4	£164.99
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Font Pack 1 for Broadcast Titler 2	£88.99
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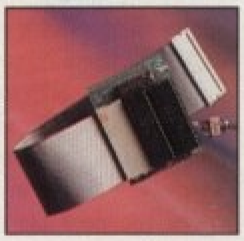
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PHOENIX Kickstart ROM Sharer

Because some older games and business software will not run on the new Kickstart 2.04 ROM. PHOENIX have designed a sharer for both ROM chip sets. Switchable between 1.3 and 2.04 you can get all the benefits of the latest A500 Plus without the drawback of losing all your old software. Fits any Amiga 500/1500/2000.



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*Kickstart Rev 3/5 ROM Sharer	£27.99
*Keyboard Switchable ROM Sharer	£34.99
Kickstart 1.3 ROM	£29.99
Kickstart 2.04 ROM	£34.99

*(ROM Chips not included)

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A570 – facts,

Ever since the release and subsequent marketing catastrophe of CDTV, the Amiga has been gagging for a ROM drive all of its own. Now after a year of solid speculation, Commodore have finally done the decent thing and released the A570.

This unit instantly transforms the A500 Plus, or in fact any A500 installed with 1Mb of chip RAM (Fatter Agnus) plus Kickstart II or 1.3, into an instant CDTV.

The RAM configuration is essential for operation of the A570 and could well explain the mysterious appearance and subsequent disappearance of the Plus as a Commodore product. Is it possible that Commodore released the Plus merely to create a user base for the CD-ROM drive? Surely not...

Although the A570 has appeared in countless mags in its pre-production state, *AC* – as ever – is the first magazine to bring you the full story of what could well be a revolution for the lowly base-level Amiga.

Before the dive headlong into the potential of the drive, a brief tour of its physical attributes is in order. As you can see from the photography, it's basically a very simple unit.

Simplistic

Installation couldn't be easier – all the user need do is remove the cover on the DMA expansion port and slide the drive into place. Audio connection is equally simplistic with the audio outs from the Amiga connecting directly into the A570 while a second set leave the A570 and connect to the monitor or amplifier as normal.

The reason for this slightly strange arrangement is that it allows Amiga and CD sound to share a common input while mixing output from both sources.

Alongside the four audio connections the unit boasts a mysterious expansion slot – which we'll look at in detail later – and of course the inevitable power socket for yet another hefty Commodore house-brick. Moving to the front of the unit, features are fairly sparse, and dare I say, stylish. Most obvious is the trapdoor which awaits the CD and caddy combination.

Alongside this sits the eject button accompanied by the far less obvious power and access lights. On the far left of the unit lurk the headphone socket and the dual off/on and headphone volume control.

Insertion

The only other item worthy of mention is the accompanying caddy, used to house CDs prior to insertion into the drive. To the average hi-fi fan who's used to simply dropping audio CDs into a convenient sliding drawer, the hassle of opening, closing, and inserting CDs into the caddy and subsequently into the drive itself can be a tad irritating.

Although a seemingly strange procedure, it's nevertheless all for a good reason. On standard CD players, missing the odd byte reading the disk would be unnoticeable.

But when the output is program data rather than a simple stream of digital music, even the slightest error will cause a software failure.

This is the reasoning behind the use of a caddy. First it's essential that the disc is read correctly, but perhaps more importantly it's vital that the disc is not damaged.

Unlike audio discs, CD-ROMs don't claim near indestructibility – in fact they're relatively frail little items that need the caddy to ensure safekeeping.

Another bonus of the accuracy required for data transfer is the playback quality of standard audio CDs. Although not designed specifically for the job, the A570 will easily outstrip the average home CD player in the sound quality stakes.

Like installation, application is equally simple. If no boot disk or hard disk auto-boot option is present, the drive simply takes control of the system and boots the CD in the drive, or alternatively throws up the familiar CDTV intro screen.

At this point you're in the "please insert a disk mode". If you insert a standard Amiga floppy, the system will boot as normal. Alternatively, if a CD-ROM is inserted, the A570 takes control and will either load a Workbench or auto-boot the CD software depending on how it was written.

Even when the floppy route is taken you still have full access to the CD-ROM as it then becomes an additional device entitled CD0:. Just like any other drive, you can copy files from it, or run programs within it. The only difference is that it's impossible to actually write data. Another nice touch is the addition of a small utility which allows remote control of standard audio CDs from Workbench. Obviously standard CDs can't be read via AmigaDOS.

As a result, Commodore have added CDplay which allows you to hop around and play back normal CD tracks while using any standard intuition-based software as normal.

If you're neither a game player or in pursuit of endless trivia, the A570 may seem a little pointless. In fact that's far from the truth.

Now Commodore have finally admitted that CDTV or more precisely CD-ROM is part of the overall computing environment, developers of power application would be mad not to take advantage, as they already have on both the Mac and the PC. The floodgates

Expansion options

Like any good peripheral, the A570 has upgrading options built in. The most vital is the rear expansion port which allows the addition of A600-style 2.5in IDE hard disks which can vary in size from 20 right up to 120Mb.

Although an optional HD is a pleasant addition, it would have been a better policy to add a through port on the A570 itself. Because of this annoying omission users with existing HD's aren't likely to have Commodore on the top of their Christmas list.

If you're one of the lucky few with a hard drive which boasts a built-in DMA through-port there's no problem, but unfortunately such drives are few and far between.

Aside from the optional IDE expansion, the A570 can also handle 2Mb of fast RAM internally, although if you already have RAM expansion on your Amiga it will be taken advantage of by the A570.

Software spectacular

Thanks to the release of CDTV there's already a very respectable supply of software, the vast majority of which is interactive, encyclopedia-style material designed for the education and yuppie entertainment market, which CDTV aimed for but apparently missed completely.

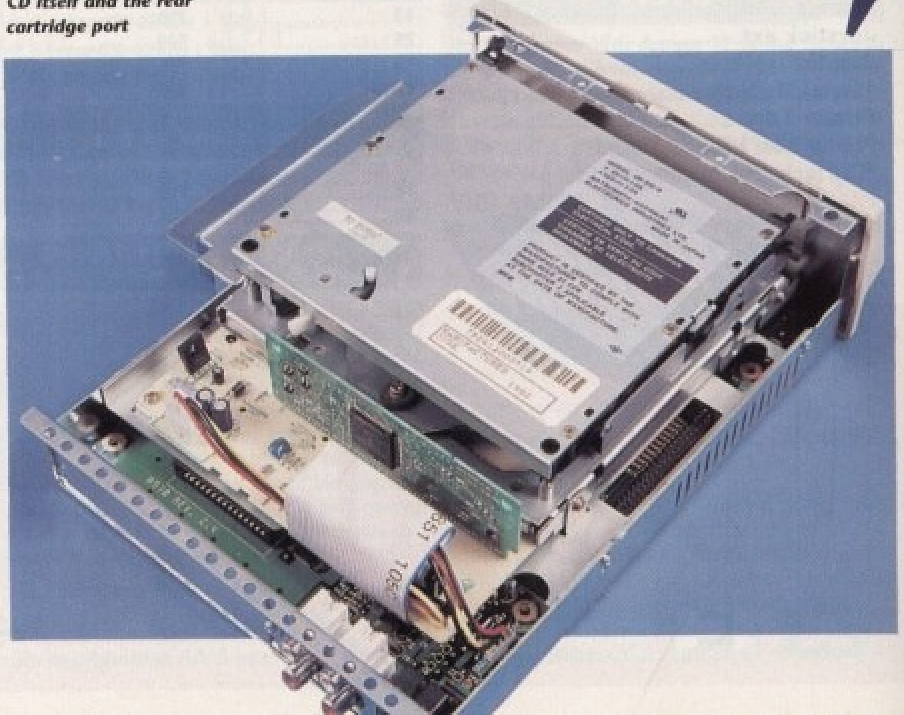
Many of the more familiar Amiga-style CDs are affectionately known as "shovelware". In short, software that makes no attempt to take advantage of the A570's interactive and accessing power but merely employs it as a 600Mb storage device.

Still it's not all shovelware and encyclopedias, as many of the latest second generation releases are very impressive indeed.

A perfect example is Icom's Sherlock Holmes – Consulting Detective, which employs all the capabilities of the system to produce a truly astonishing interactive game featuring real actors, in real sets, digitised speech, and much more besides all combining to produce a stunning game and truly wonderful atmosphere.

Like many of the latest releases, the program takes advantage of the proprietary CDXL format which allows the transfer of huge amounts of data direct from ROM to the CPU at unbelievable speed, especially considering the limitations of a standard A500.

Thanks to the CDXL system, around 15 frames a second of quarter screen full-colour digitised video can be spooled direct from ROM. With over 600Mb of storage on hand, awesome games software will inevitably produce the "must have" product that could launch the A570 and the CDTV into the big league of home entertainment.



A570 internals, showing the CD itself and the rear cartridge port

are now opening for CD-ROMs dedicated to power applications, hundreds of PostScript fonts, clip art numbering in the thousands, texture maps and 24-bit backdrops by the bucketful – all stored on designer CD-ROMs.

A perfect example of this already exists in the form of CDPD, which is a single ROM holding the entire Fred Fish collection from disks 1 to 660.

Aside from Amiga CD-ROMs it has been claimed that the new drive will access existing PC and Mac power ROMs – clips, fonts, 24-bit textures and so on.

Although extras such as hard disks and additional RAM are already in hand, that's only the tip of a sizeable iceberg which if implemented could make the existing capabilities of the A570 look rather pedestrian.

AVM

The first of these additions will be a system already available on the CDTV which unfortunately has been initially left off the A570. Advanced Video Mode – AVM for short – will allow the A570 to access pseudo 24-bit graphics in the style of DCTV.

Once installed the upgrade will allow on-screen graphics with 256,000 colours from a palette of four million, as opposed to the lowly 16,000 colours on-screen offered by the Philips CD-I system.

According to Commodore the aforementioned dealer-fitted upgrade should be available around September/October '92.

Aside from AVM, perhaps the hottest news has to be the development of the Mpeg chipset which when complete will allow real time, full frame, full motion video at the broadcast standard of 25 frames per second. According to Commodore's Gary Lewis, the imagery and accompanying CD-quality sound will be well above that offered by standard VHS tape.

Mr Lewis went on to claim that a full 72 minutes of digital audio/video could be squeezed onto a single CD-ROM thanks to the astonishing compression and decompression features of the new Mpeg chipset. And thanks to the interactive capabilities of the system it could even be possible pick your own ending...

Piracy stricken

It remains to be seen how close to the truth such claims actually are, and I'm afraid we'll all have to wait until '93 to find out. If the hardware matches the marketing it's sure to be a popular format for the piracy-stricken video industry. But it remains to be seen if the consumer will be ready to forsake the recording ability of VHS for the added audio/visual clarity of CD-ROM.

Some of you may well be thinking this is all fine for the A500 Plus mob but what about the rest of use? Well – and I quote - "Commodore are devoted to CD-ROM throughout our range".

After a little more prompting it was confirmed that they plan to have the A600 CD-ROM drive – namely the A670 – on the market hopefully before Christmas and at the latest early next year, followed by a standalone external unit suitable for A1500s and above in spring/summer '93.

With the exception of the infuriating lack of a DMA through-port, the A570 is just what the doctor ordered for education, entertainment, and given time, power applications.

The sooner suitable drives spread across the entire range the better, but with AVM and Mpeg technology in the pipeline Commodore appear to have transformed the CDTV turkey into a real spring chicken... AC

not fiction

Paul Austin brings you the definitive guide to the long-awaited A570 CD-ROM drive, set to bring multimedia to the masses



The A570 is be available from all major suppliers. Commodore official retail price: £349.99

COMPUTERS

THE PRICE BLASTERS

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Deluxe Paint III	£9.99
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Walt Disney Animator	£64.99
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NEW LOW PRICES ★ VIDEO STUDIO ★

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Take 2 Animation Package	£24.99
Complete Colour Solution	£69.99
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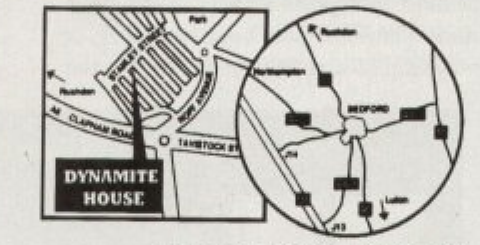
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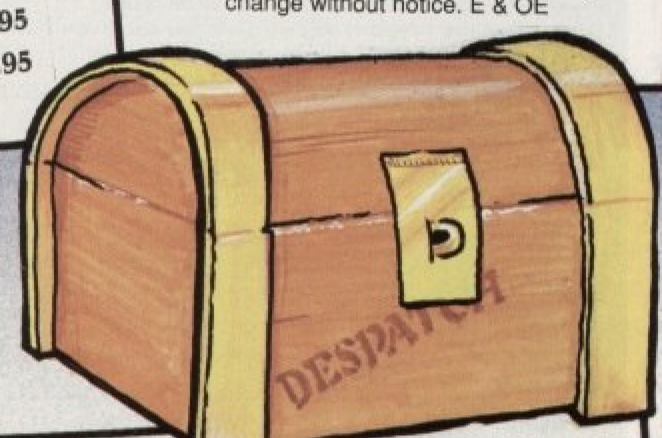
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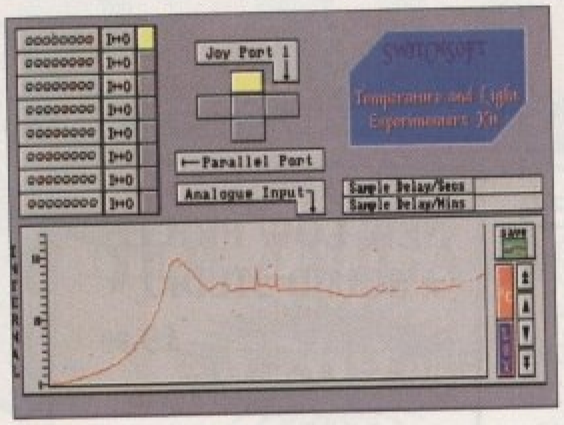
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As a faculty head, I am responsible for leading six departments in school, and our Amigas play a vital role in developing understanding of how to use technology, from music to mechanical engineering.

Needless to say, we have developed pretty extensive skills in stretching the Amiga to its limits, and along the way learned both by costly error and imaginative messing what we feel are the most appropriate software and hardware solutions to achieve the best possible outcomes



Techno Amiga is without doubt an outstanding value for money product, which allows a multitude of electronic and mechanical control experiments.



Wordworth is for me the best of all the wordprocessors. It doesn't have quite the text handling capabilities of Protext, but really, it is half way to being a full blown DTP package

Chalk faces challenge

Wilf Rees reports on using computers in education, and selecting horses for courses

within limited resources. All of the major applications are covered by one department or another, and what I would like to do is share our experiences with you and demonstrate why we have chosen particular solutions.

This advice may be of use if you are a parent wondering which software would be most appropriate for your child's use, a student anxious about value for money, or maybe just a reader confused by the plethora of advertising hype, and unsure about the decision.

Probably the most widely used of all our software are the wordprocessors that we have. These vary enormously in price, and offer a myriad of assorted options.

Good old Kindwords has received various beatings in the computer press, and while, yes, I know it does have limitations and can suddenly (though not as often as claimed!) crash, but it is cheap, it works, it's easy to use, and has literally handled millions of words in my school.

It can import graphics, perform most of the rudimentary requirements for the majority of six-finger typists, and output text in a perfectly acceptable manner.

There are several others, with more sophisticated and professional features, but I have no hesitation in recommending Wordworth as being the best of the rest. The range of facilities are stunning, and the dictionary/thesaurus support is the

Printing to perfection



One of the few ways to try and improve the poor quality of colour printouts, characteristic of colour kits on dot-matrix printers. Flexidump 2 bypasses the preferences, and uses its own routines to directly control the sending of data to the printer

The big problem with any computer is getting hard copy out, that looks the part but doesn't cost the earth. Apart from colour laser printers, for which you will need to mortgage your house, the remaining options are limited.

We have several dot matrix printers fitted with colour kits, but despite people like Citizen offering free dump software which offers some improvements, really the output is a bit naff, and the banding still obvious.

Inkjet printers offer reasonable results, and the best I have seen at a reasonable cost is the HP Paint-Jet. It is half the price it was four years ago, and while a bit costly to run, does give accurate and clean prints.

There is an alternative that I have found which offers some salvation. Care Electronics offer Flexidump 2 which is an innovative solution to improving the output of dot-matrix printers.

The software overrides preferences, and instead uses its own routines to provide superior quality results. We have used this software with a Star LC200, and the comparative results can be seen in the printouts. Care Electronics offer two other facilities which deserve attention – firstly a bubblejet colour kit, and secondly replacement ribbons for inkjets which when printed onto paper, can be transferred to fabric using a hot iron.

Providing the fabric contains some synthetic content, it works really well, and the colours are bright and fast.

One method I have used very successfully is the silk-screen route. This involves taking a digitised image, and loading it into Art Department. Art Department is a really useful package which allows all sorts of image manipulation.

Process colours

One of its key features is the ability to separate the process colours from an ordinary IFF file. Process colours are the four tints which collectively constitute a coloured photograph, often seen printed along the side of a daily newspaper.

They are yellow, cyan, magenta and black. If you use Art Department to carry out this process, you then change each of the colour separations into greyscales, remembering to record, (usually with the initials, Y,C,M,B in some discreet corner), which one represents each colour.

These images are then printed out onto ordinary paper via your printer. The greyscale images then go to a photocopier, and instead of loading it with copying paper, you use acetate.

The result is four images representing each process colour, in greyscale, printed onto clear acetate.

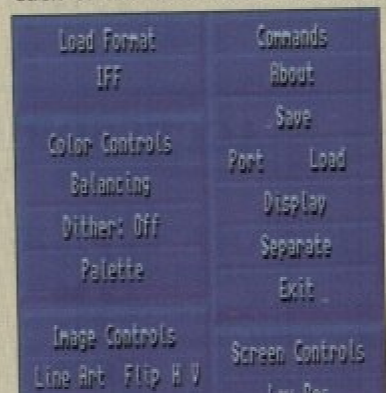
Silk-screen printing is an ancient art-form, still extensively used today for high quality, crisp, multicoloured prints. It consists of a wooden frame across which is tightly stretched a sheet of silk. Printing ink is forced through the fine pores of the silk by using a rubber bungee, which is drawn across the inside surface of the silk.

A template, or image fixed photographically onto the screen, resists selected areas from printing, to create the desired image.

This is where the acetate sheets come in, because treating the surface of the screen with a proprietary light-sensitive emulsion causes the screen to fix the image from the acetate if exposed to ultra violet light.

By either repeating the exercise four times, or using four separate screens, we have in effect an image representing each of the constituent colours which go to make a coloured picture.

All that is then required is to print with process coloured ink onto paper, finishing with black, and we end up with superb high quality results.

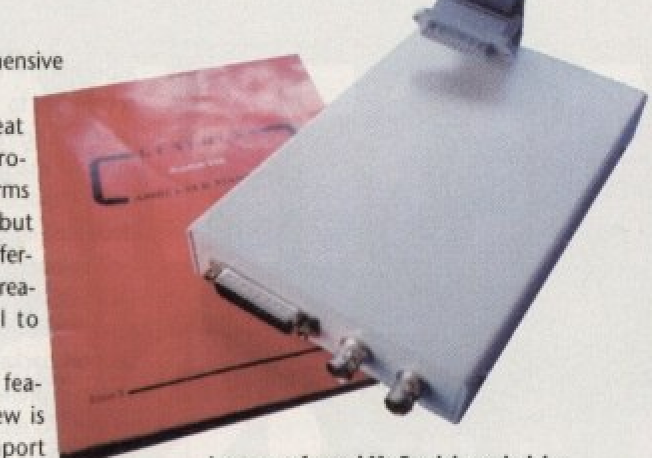


Art Department is a really useful package for manipulating graphics files. Colour separation is just one of its many competent features

most friendly and comprehensive around.

Digita have given a great deal of thought to this program which not only performs well as a wordprocessor, but goes a long way towards offering desktop publishing at a reasonably competent level to cater for many needs.

One of the most useful features from my point of view is Wordworth's ability to import text in several formats (Kindwords, Protext, Ascii, ProWrite, WordPerfect) and still handle the differences. If you are going to get into a situation where you receive disks with text in all manner of forms, then Wordworth is the choice to make.



A super performer! My Rendale genlock has been given a lot of stick over the last four years, but never faltered

Scanners

I recently spent the weekend at a computer show in London, and one of my objectives was to find a hand scanner. Using scanned images has grown in popularity at school as a quick way to import graphics to enhance presentations, especially in extended essays requiring illustrations.

My quest took me around all of the major suppliers, and I had a good opportunity to try all of them out. I found several of them performed on a par with each other – the Pandaal and the Power Computing models giving pretty much the same quality, but I felt one stood out from the rest, and that was the Alfascan from Alfadata.

I now have purchased one, and can confirm that the results are brilliant, better even than digitising. Along with the Alfascan I purchased Touchup from Migraph, and it is this software which makes this an unbeatable combination.

A4 capability, 256-greyscale scanning and the facility to save IFF, IMG, PCX, TIFF, and MacPaint formats give unrivalled communication capabilities. Touchup allows many additional features beyond the simple scan/cut and paste.

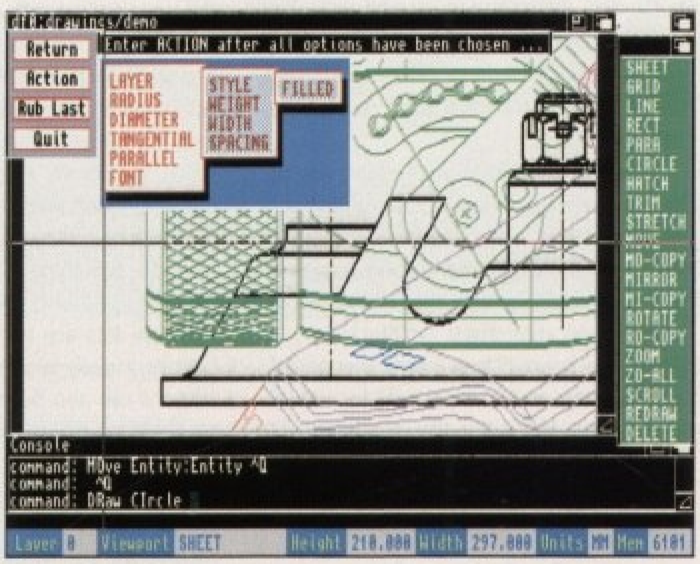
A greyscale previewer allows you to view the current mono dithered image as a greyscale image, and an IFF viewer allows previously scanned images or other IFF and HAM images from other programs to be viewed. A palette tool enables modification of the RGB values, necessary to reduce flicker when working in interlace.

A comprehensive Paint mode offers the chance to work into the scan with all manner of drawing and fill facilities, and the Clip mode gives a plethora of sophisticated manipulative tools. I certainly find this combination has a good head and shoulders lead on the rest.

Hand-held colour scanners are still a little rare, and not yet produced in sufficient numbers to allow market forces to influence price.

Solutions for colour images still lie in the digitising field, and in a market where Digiview ruled supreme, we now have one or two pretenders. Datel have a budget model, which I found limited in flexibility

➤



Technical drawings and mechanical representations are adequately catered for in X-CAD Designer package. Lots of additional utilities are now available to extend its scope, as well as X-CAD Professional, which is the ultimate beast for CAD applications

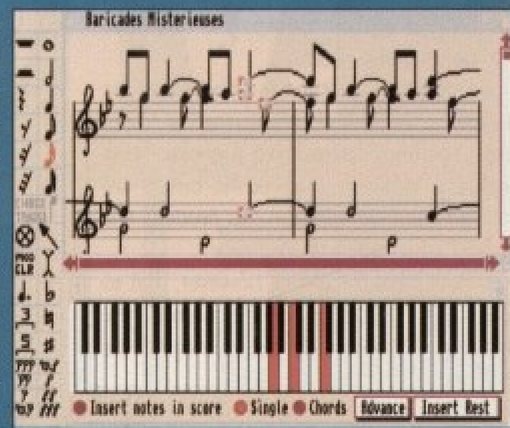


The Integrex 132, sold to schools by the bucketload. Now looking long in the tooth, and overpriced.

Express yourself

Expressive and performing Arts is a course we run which attracts a lot of students. Music features very high on the choice of options students follow, and we have spent a lot of time and money considering the best equipment for our students to use.

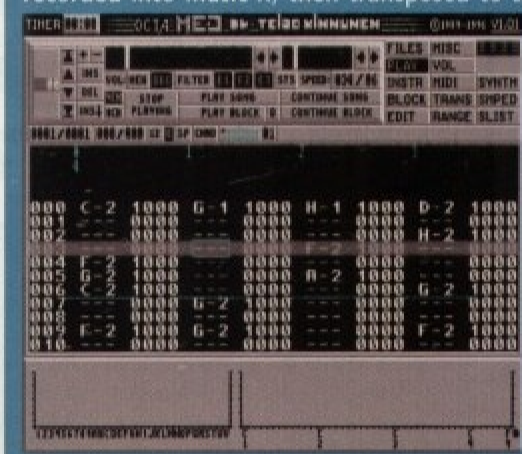
Midi has been the great revolution in music technology, and we wanted to build facilities around our Amigas which would allow the full potential of the computer to be utilised in the composition and performance of Music.



This one is the business, up to 250 tracks of sequencing, brilliant Midi capabilities, and in-built editors. Serious kit if you want to be another Jarre or Webber

We opted for three music packages. Music-X is, I believe, still the best sequencing package available. It is immensely powerful, and versatile, and allows extensive editing facilities.

We recently produced Guys and Dolls, and the whole of the music was recorded into Music-X, then transposed to suit the ranges of the students' voices.



A public domain music composition package which has appeared in many weird and wonderful forms. Ideal for those who have an ear for music, but limited knowledge of notation skills

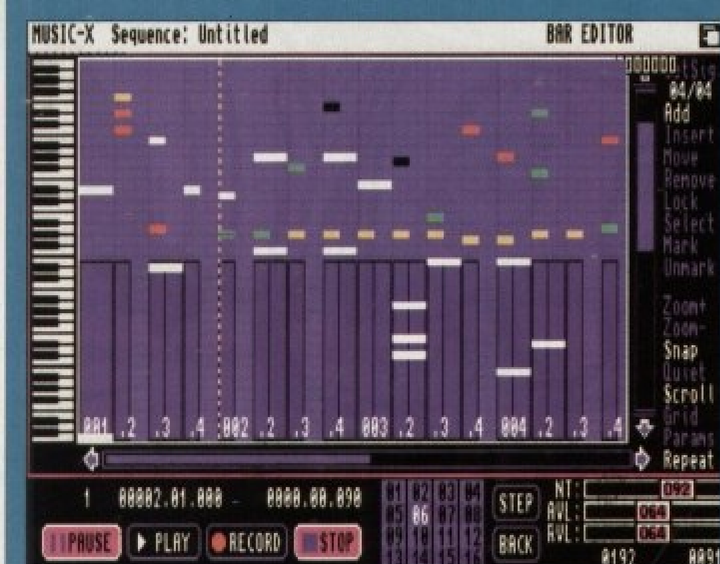
This was then recorded out onto tape, and each student was able to take away their own part to practice and learn. On a much simpler level we use Deluxe Music for basic notation and composition skills.

It prints out the results well, and the sounds can be changed to suit the nature of the piece.

On a more diverse tack, we find the PD package MED excellent, especially for students with little musical training, but with definite ideas about writing and creating music. All of these packages are used around the AMAS combined sound digitiser and Midi interface. This is a very robust unit, which has proven to function extremely well, and given sampled sounds of a very high order.

The three packages all work with Midi, but only Music-X has the sophisticated facilities necessary to contemplate professional quality composing.

Our Amigas drive assorted Midi keyboards from Roland, and expanders and drum machines from various manufacturers. We even use Midi electric guitars to enable students to access the vast range of sounds available, and play through a medium that is usually the most popular.



Music-X – a cheap, versatile and easy to use entry-level music package, a must for all early years music departments. Limited Midi capabilities, but good notation features

and quality. Rombo have entered the market, with their Complete Colour Solution adding an electronic RGB splitter to avoid the tedious process of separate red, blue and green grabs.

The Rombo package is good value for money, especially if bought as the complete solution, rather than the two items separate. However, I think the others are still pretenders, and none can produce the quality achievable with Digiview 4.

It does have to be said, however, that so much of the outcome depends on both the lighting and the quality of the image to be digitised.

It is not really acceptable to use ordinary domestic light-bulbs to illuminate the image. I strongly suggest investing in either daylight photographic bulbs, or "neon" daylight. The quality is markedly better, and the colour reproduction much more accurate.

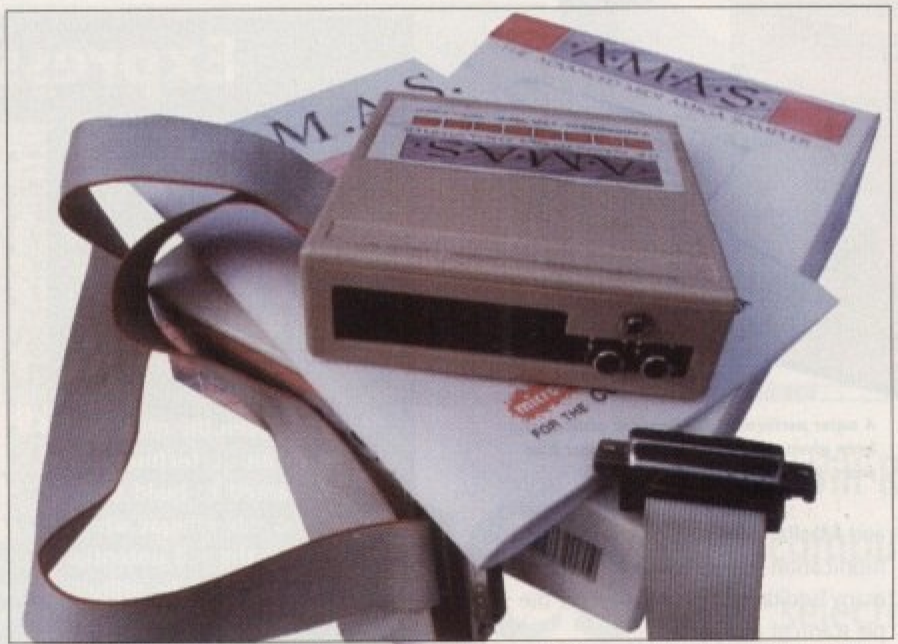
Cheap camera

There is not a great deal of need to go overboard on the video camera used, in fact I often use a black and white security camera, bought second-hand from a surplus electronics shop for £15.

What is important is that the focus is really crisp, and that the illumination avoids "flares" and dark spots, often found on images with glossy surfaces.

I did for a few weeks have a Colourpic on loan. Now this is a different ball-park, allowing real-time colour digitising, but at a price. But then you need to ask the question, "Do I really need the facility to grab and buffer several frames, or will single grabs serve my needs?"

Had the box been half the price, I might have been tempted, but I think frankly it is too expensive, especially if you look inside and see the amount of electronics required to achieve the tasks, and apart from which, I can get just as good results from Digiview, time-consuming though it may be. Once into the world of digitising, then video quickly rears its expensive head, probably one area where the Amiga rules supreme among all personal computers.



Getting a combined sampler and Midi interface saves a lot of hassle, and the AMAS package has just that, as well as performing well, without any problems

We use the Amiga in our television suite, to assist with editing and titling, and for controlling the storage and recording of tapes.

In terms of quality, the genlocks available on the market vary from £99 adequate, to £800+ broadcast quality. Several acquaintances use Amigas for professional video production, and the favoured choice seems to depend upon the Amiga owned.

Commodore's own A111 fits internally into the video slot and is a superb performer, especially since it has plummeted in price, available for around £125.

This unit willrequire, of course, an Amiga 2000. However my favourite is the trusty old Rendale A8802, still performing faultlessly after four years, and giving first class results.

Rendale offer an upgrade service to allow fades, as well as SVHS capability to be included, so this is the path I will take. Of course a genlock isn't really exploited unless some software is used to provide titles and effects.



My favourite scanner and software. Touchup really is a useful package, and the Datascan performs extremely well



Touchup, the package that makes the Alfascan unbeatable. Loads of facilities for getting into the scanned image and playing around with the picture. fills, lines, shapes – you name it, it's there. Scan in a picture of your mum, and gently remove all the wrinkles. She'll love you for it!

I seem to have gone quite a long way so far without mentioning Deluxe Paint, but I suppose it had to happen eventually. This really is a thoroughbred among software, and has such versatility, that I have yet to find an application that it can't tackle.

We use it extensively for all manner of applications, and in particular for video. The animation facility allows scrolling of titles, view boxes for video headers come from the drawing tools, and fades are handled easily with the colour palette facilities.

Peripherals

External devices added to the Amiga are available in all manner of function and application. Two areas growing in leaps and bounds in education are CAD and control.

Computer-aided design is a term for any aspect of the design process which employs computers to assist that process, in particular the engineering/mechanical development of machine-based components which can be quickly and accurately drawn using dedicated software.

The package favoured by me is X-CAD Designer. A recent change in distributor has seen the development of a host of additional support packages which go to making this a very comprehensive and powerful facility.

I would recommend supporting this with Expert Draw, a vector-based drawing package which allows scaling of images, without loss of definition – the blight of bitmapped drawings.

Realisations of products designed on X-CAD Designer can be drawn on Expert Draw, imported into Wordworth and used for writing up reports, or evaluation documents in assignments.

Getting output from CAD packages will work with dot-matrix printers, but really a plotter is a must for larger and more accurate detail.

We have looked at the various models available, and opted for two different makes – the Graphtek MP4100 and the Plotmate A3M.

The Graphtek is the more expensive, and worked without any problems, the Plotmate took quite a while to get working, requiring the fitting of HPGL ROMs to enable hand-shaking with the serial port.

A new model has now replaced the A3M, called the XY7 50, and I'm told it has improved speed and hand-shaking capabilities. Roland do make very competent performers, but the Roland Desktop 7475A comes in at a mere £1,405, seeming a little pricey.

Control

Equipment for control on the Amiga is a little thin on the ground. I had a good look at a product called Techno Amiga some time ago, which offered sound, light and electronic experiments, but only on a limited scale, and not really appropriate for use with students in high schools.

I recommend unreservedly a company called Switchsoft, who make an input/output port, along with a host of additional kits to enable the owner to build anything from a simple switching circuit to a robot or a buggy.

These kits are remarkably cheap, and built to a really high standard. All kinds of add-ons can also be purchased – for example there is a mains controller, allowing your Amiga to control up to 3.6kW of power, a motorised gearbox, gear and pulley kits, wheel and axle packs, a power RAM kit, relay boxes, and many more.

I have spent hours with students using this superb collection of accessories, and would suggest any school seeking a means of introducing control, or any parent looking for a worthwhile and educative present, to seriously consider this package. AC


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OR...YOU CAN CHOOSE A PHILIPS MONITOR T for Just £20 EXTRA! See page 3 for FULL details of this remarkable Fast Text Monitor TV

£719.95 Including VAT

A600HD PACK 3 FOR AN EXTRA... That's right have Games Pack 3 with an Amiga A600HD with 20Mb. Hard Drive in place of the A600FD **£124.95** [Note...CBM Game & D Paint III NOT supplied with HD Pack]

"IT'S THE-BUSINESS"

A TRULY PROFESSIONAL PACKAGE SPECIFICALLY FOR THE BUSINESS MINDED AMIGA USER. THIS ONE SHOULD FULFILL EVERY AREA OF HOME BUSINESS YOU'RE LIKELY TO NEED!

THE BUSINESS PACK FROM HARWOODS INCLUDES ALL THE FOLLOWING...

AMIGA A600FD WITH 1Mb. MEMORY
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PHILIPS CM 8833/II STEREO COLOUR MONITOR
See Monitor Panel on Page 3 for Details
+
STAR LC200 9 PIN NLQ FULL COLOUR PRINTER
See Printer Panel on Page 3 for Details
+
A HOST OF BUSINESS SOFTWARE & ACCESSORIES...
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Plus...
- A GREAT CBM GAME
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- 10 BLANK 3.5" DISKS
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MEGA GAMES PACK — POWERPRO PROFESSIONAL PROFESSIONAL PROFESSIONAL PROFESSIONAL PROFESSIONAL PACK — POWERPRO

OR...YOU CAN CHOOSE A PHILIPS MONITOR TV for Just £20 EXTRA! See page 3 for FULL details of this remarkable Fast Text Monitor TV

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ADD A CUMANA CAX 354 2ND DRIVE FOR JUST £50

£784.95 Including VAT

A600HD POWERPRO PACK FOR AN EXTRA... That's right have a Powerpro Pack with an Amiga A600HD with 20Mb. Hard Drive in place of the A600FD **£124.95** [Note...CBM Game & D Paint III NOT supplied with HD Pack]

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Get your children off to the right computing start with this software learn and play Compendium 6 pack...

KIDS TYPE, WEATHER WATCHER, CALENDAR QUIZ, WORDS & NUMBERS, GAME SET & MATCH, WHAT IS IT ?- WHERE IS IT?
Active, enquiring young minds will love the fun of these six entertaining but educational titles. Your children probably won't even realise that their "lessons" have begun!!!

HOMEBASE
Ideal home storage system. Keep household lists, student records etc. Easy to use "push button" controls.

PRIMARY MATHS COURSE
Around 24 modules in this course from 3 yrs old right up to secondary level. Follows N.C.

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A GREAT EDUCTIONAL PACK FOR YOUR CHILDREN AT A FRACTION OF THE NORMAL COST

LESSON A — EDUCATION — A — PACK A — EDUCATION

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GCSE examination level studies on your Amiga computer that's fun!

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PEN PAL - Graphical Word Processor
A fantastic word processor with all the tools you'll need to create effective written work. Ideal for home work, projects etc. or for the families letters. Text wraps automatically around graphics, even as you type! Includes a built-in database and Forms Manager.

HOMEBASE
Homebase is the ideal information storage program for things like household lists, student notes, and children's educational projects. Inc. clearly labelled "push button" controls and clear comprehensive reference manuals.

A GREAT EDUCTIONAL PACK FOR YOUR CHILDREN AT A FRACTION OF THE NORMAL COST

LESSON B — EDUCATION — B — PACK B — EDUCATION

£89.95 Including VAT

PHILIPS — Canon™ — Apple™ — hp™

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Compare our Service

Before you choose from whom to purchase, please phone us. We are always happy to discuss your requirements, and answer any queries you may have...

ORDER BY PHONE: Phone our Order Hotline with your Access, Visa, Mastercard, Switch or Lombard Creditcharge Card quoting number & expiry date (Dixons, Currys, NASCR and other 'store' cards are Lombard Creditcharge and are accepted by us).

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REMEMBER AFTER YOU'VE BOUGHT FROM HARWOODS, WE'LL STILL BE HERE...

TECHNICAL SUPPORT: You will be given our Exclusive Technical Support Phone Number to call should you require any help or advice on any aspect of the system you have purchased.

12 MONTH WARRANTY: Items proving faulty within 30 days of purchase are replaced with NEW UNITS unless otherwise stated. For the whole guarantee period, warranty service will be completely FREE OF CHARGE.

COLLECTION FACILITY: Any computer, monitor or printer requiring warranty service can be collected from your home FREE OF CHARGE during the guarantee period (UK Mainland only) and a FAST turnaround is GUARANTEED by our OWN ENGINEERS!

FULL TESTING PROCEDURE: All computers are tested prior to despatch, and all items are supplied with mains plug and leads as required - just connect up and use straight away.

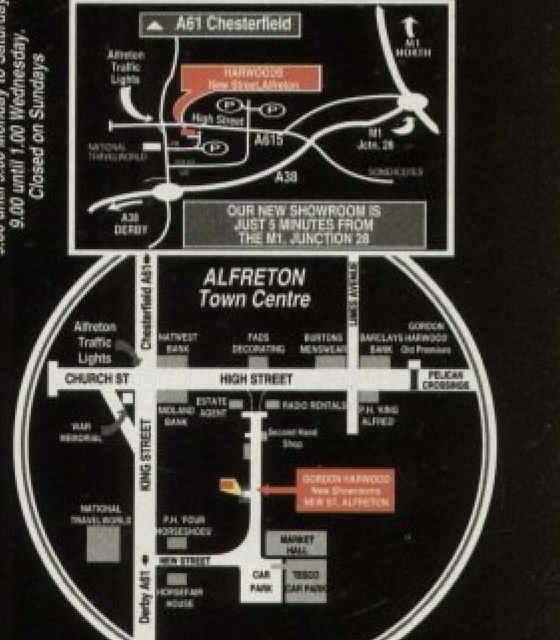
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All listed prices are what YOU PAY, and there are NO HIDDEN EXTRAS. VAT and postage are included, and prices are correct at time of going to press (Pack details may vary from time to time). Offers are subject to availability and to being the latest advertised packs and prices. Our offers are NOT supplied on a trial basis. E&OE.

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Enquiries & Order Line:

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Finance Facilities Available*
*Please phone us for information and your personal application pack

Access — Creditcharge — VISA — SWITCH

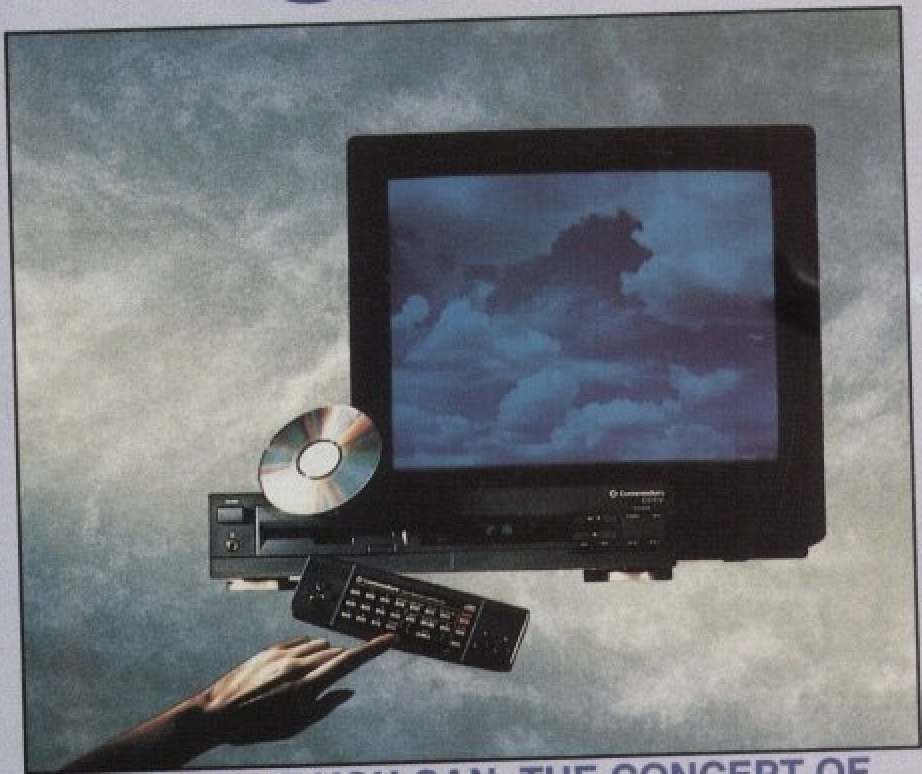
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The Closer you look, The Better we look.

SOUND AND VISION

Words and Pictures

CDTV



IMAGINE, IF YOU CAN, THE CONCEPT OF A NEW, MORE POWERFUL AMIGA...

...WITH 1 MEGABYTE OF MEMORY, AND A COMPACT DISK DRIVE OF ALMOST INFINITE SIZE. A DISK DRIVE SO VAST, IT CAN STORE HUNDREDS OF MILLIONS OF DIGITS OF DATA. THIS DATA COULD BE, SPEECH, ANIMATED PICTURES, DIGITISED STEREO SOUND, COMPUTER IMAGES OR WHOLE ENCYCLOPAEDIAS.... AND MORE.

IMAGINE THIS, AND YOU CAN START TO GRASP THE CONCEPT OF CDTV.

THE INTEGRAL COMPACT DISK DRIVE, IS THE KEY TO THE POWER OF CDTV. ITS STORAGE CAPACITY IS EQUIVALENT TO AROUND A QUARTER OF A MILLION FULL PAGES OF TEXT. THIS WHEN INTEGRATED WITH THE 1 MB OF INTERNAL AMIGA CIRCUITRY, CREATES A SYSTEM, WHICH FROM A CD DISK, CAN GIVE YOU ACCESS TO AN UNIMAGINABLE SPECTRUM OF REAL WORLD IMAGES, NEVER SEEN COMBINED BEFORE. THESE VIVID IMAGES, WITH WORDS AND SOUNDS, GIVE YOU A WHOLE NEW DIMENSION IN HOME EDUCATION, ENTERTAINMENT & INFORMATION TECHNOLOGY. AND... DON'T FORGET, THAT CDTV CAN PLAY IN SUPERB QUALITY, ANY NORMAL AUDIO MUSIC CD, AND IT CAN ALSO PLAY THE NEW CD+G DISKS, WHICH GIVE DIGITAL SOUND AND ON SCREEN GRAPHICS. ON CD DISKS NOW AVAILABLE, THERE ARE EDUCATIONAL PACKAGES, ENCYCLOPAEDIAS PACKED WITH REFERENCE INFORMATION, STUNNING GAMES, MUSIC SYSTEMS AND MANY OTHER NEW AND VARIED SUBJECTS, INCLUDING WHOLE WORLD ATLASES OR EVEN THE COMPLETE WORKS OF SHAKESPEARE, EACH ON ONE CD DISK!!! **CDTV - NOTHING LESS THAN REVOLUTIONARY**

FREE CDTV STARTER PACK!!!

WHEN YOU CHOOSE YOUR CDTV FROM GORDON HARWOOD, NOT ONLY DO YOU GET OUR LEGENDARY SERVICE, BUT WE GIVE YOU A CDTV STARTER PACK, TO GET YOU EXPLORING YOUR NEW WORLD - STRAIGHTAWAY. THIS INCLUDES A SUPERB SELECTION OF CD DISK TITLES INCLUDING THE WELCOME TUTORIAL & HUTCHINSONS ENCYCLOPAEDIA, PLUS ... FIVE GAMES, SHERLOCK HOLMES & THE HOUND OF THE BASKERVILLES, SIM CITY, CHAOS IN ANDROMEDA, A TOWN WITH NO NAME, AND THE ACCLAIMED LEMMINGS, WORTH IN TOTAL ALMOST £200.00. IN ADDITION IS THE INFRARED REMOTE CONTROLLER, AND ALL THE HARDWARE NEEDED TO GET YOU CONNECTED.

ALL THIS FOR JUST £499.95

CDTV IS THE SAME SIZE AND STYLE AS MOST VIDEO RECORDERS, SO IT CAN SIT UNOBTRUSIVELY ABOVE OR BELOW YOUR HOME TV AND/OR HI-FI. AND WITH ITS INFRARED REMOTE CONTROLLER, IT CAN BE OPERATED FROM YOUR ARMCHAIR. BUT PERHAPS MOST IMPORTANTLY, IF YOU ARE A COMPUTER ENTHUSIAST, REMEMBER THAT INSIDE EVERY CDTV, IS AN AMIGA, JUST WAITING TO BE USED. SO LATER ON, YOU'LL BE ABLE TO BUY THE OPTIONAL KEYBOARD AND DISK DRIVE, TO GET INTO THE WORLD OF AMIGA COMPUTING. PRINTERS, DIGITISERS, GENLOCKS AND OTHER ACCESSORIES,CAN ALL BE CONNECTED TO GIVE ACCESS TO MANY OTHER EXCITING FACILITIES, AND ALSO MANY OF THE EXISTING SOFTWARE PACKAGES AVAILABLE FOR THE AMIGA COMPUTER. NEVER BEFORE HAS THERE BEEN SO MUCH POTENTIAL FROM ONE NEW STUNNING SYSTEM, PACKED WITH **TODAYS TECHNOLOGY.!**

CALL IN AND SEE US FOR YOUR PERSONAL DEMONSTRATION, OR PHONE US FOR YOUR FREE DETAILED CDTV INFORMATION PACK.

CDTV ACCESSORIES

Please call for latest availability.

CD 1220 KEYBOARD	AN 89 KEY QWERTY KEYBOARD	£49.95
CD 1252 MOUSE	INFRARED MOUSE WITH BATTERY SAVER.	£49.95
CD 1200 TRACKBALL	INFRARED TRACKBALL, WITH THE OPTION OF DIRECT CONNECTION TO EXTEND BATTERY LIFE. DUPLICATES FUNCTIONS OF 2 BUTTON MOUSE & INCLUDES TWO 9 PIN PORTS FOR STD. JOYSTICKS	£79.95
CD 1400 CADDY	FOR HOLDING CD WITHIN DRIVE	£9.95
CD 1401 MEMORY CARD	PERSONAL RAM CARD CONTAINING 64K OF MEMORY FOR STORING DATA OR AS A BOOKMARK FACILITY WITHIN CDTV	£79.95
CD 1405 MEMORY CARD	A LARGER PERSONAL RAM CARD CONTAINING 512K OF MEMORY FOR STORING DATA OR AS A BOOKMARK FACILITY WITHIN CDTV	£249.95
CBM FLOPPY DRIVE	3.5" FLOPPY DRIVE WITH 880K CAPACITY. MATCHING BLACK FINISH . SUPPLIED WITH AMIGA WORKBENCH DISKS/MANUALS etc.	£99.95
CD 1301 GENLOCK	PAL BASED VIDEO INTERFACE CARD FOR SUPERIMPOSING CDTV IMAGES OVER A VIDEO SIGNAL PROVIDED BY ANY STANDARD VIDEO SOURCE	£149.95
ROCLITE 3.5" DRIVE	CDTV COMPATIBLE AND STYLED IN MATCHING BLACK.	£69.95

Many Amiga Accessories & Peripherals (e.g. Printers, Disk Drives, Software etc.) are compatible with CDTV. Please phone us for compatability information.

HARWOODS AMIGA PRO-GEN

NEW LOWER PRICE



PROFESSIONAL QUALITY GENLOCK FOR COMPUTER AND VIDEO MIXING, AT A DOWN TO EARTH PRICE!!!

Please note the above photograph shows Spectracolor which has now been replaced by Photon Paint 2.0

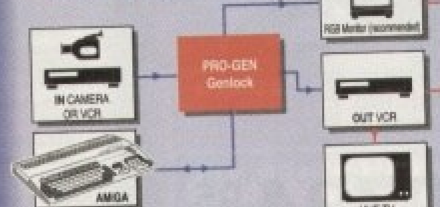
PRO-GEN Amiga Genlock

The Pro-gen AMIGA Genlock allows you to mix your Amiga display with any PAL video signal whether it is from a VCR, Laserdisk player or a Camcorder. In fact any item of video equipment which outputs a PAL composite video signal.Combined with the Amiga computer the Pro-Gen gives you the facilities of a special effects & video titling suite. Take your own films & give them a professional look by OVERLAYING TITLES or by SUPER IMPOSING YOUR OWN GRAPHICS created in packages like Photon Paint 2.0 or Deluxe Paint. Pro-Gen is supplied with micro illusions superb Photon Paint 2.0 package.

FREE Photon Paint 2.0 Software

A powerful Lo-and-Hi resolution hold and modify (HAM) paint program, with overscan (NTSC/PAL) and special effects for your Amiga Computer including all the following... **Contour Mapping:** drapes a brush over a 3D "landscape". Pixel intensity values decide the peaks and valleys, while a specially developed ray-tracing algorithm maps the image precisely. **Surface Mapping:** around 3D objects, both geometric and free hand drawn. **Luminance:** sets the light source and intensity. **Shadowing**: automatically with control of size and offset. **Brush Control:** twist, tilt, resize, flip, rotate, bend, adjustable transparency, stretch etc etc. PLUS LOTS MORE! A great program allowing use of 4096 colours. Choice of horiz/vert page print, negatives, anti-aliasing, dithered print, adjustable brihgtness etc.

How it works:



STOP PRESS

PRO-GEN... NOW INCLUDES A VERY VERSATILE MULTI COMPONENT VIDEO TO GENLOCK CONNECTING CABLE KIT. THIS ALLOWS PRO-GEN TO BE USED STRAIGHTAWAY WITH MOST POPULAR VIDEO EQUIPMENT, WITHOUT THE NEED TO HUNT DOWN THE CORRECT CONNECTING CABLES. THIS KIT CAN ALSO BE USED TO CONNECT IN OTHER WAYS... eg. VCR TO VCR etc.
A KIT TO START YOU OFF RIGHT FROM THE MOMENT YOU OPEN THE BOX!!

NEW LOWER PRICE

PRO-GEN with Photon Paint 2.0 ONLY £89.95

Mode Switch-box for Genlocks

Features Include
-Compatible With The Pro-Gen And Rendale 8802
-Supplied With Genlock Extender Cable Worth £9.95
-Switch-box Switches Between Foreground, Background, Video And Computer Modes.

£29.95

Finance terms are available (subject to status) for most products; please see our ordering panel at the end of this advert for full details

FREE... Fully Tailored Dust Cover with all Dot Matrix Printers

PRINTERS

FREE ACCESSORIES

All printers in our range include a standard Centronics/Parallel Port for direct connection to Amiga, PC's, Atari ST's, Archimedes etc.

We supply a connection cable to YOUR computer FREE
plus a Quality Dust Cover with ALL Dot Matrix Printers FREE



When you are comparing our prices to others make sure that the same essential items are included eg. Printer Lead, Dust Cover, Postage and VAT etc.

Now Available
New Canon BJ10EX Printer
ONLY £229.95

CITIZEN 120D+ 9 PIN MONO - Up to 120/25 cps — £134.95
- Very reliable low cost printer with interchangable interfaces for Centronics/RS232/serial type (C64 etc.)
- Full 2 Year manufacturers warranty

NEW FASTER STAR LC20 9 PIN MONO - Up to 150/38 cps — £154.95
Replacement for our most popular Mono Dot-Matrix at a super low price
- Multiple font options easily accessible from front panel
- Excellent paper handling facilities
- Simultaneous, continuous and single sheet stationery
- 240 x 240 dpi Graphics

STAR LC200 9 PIN COLOUR PRINTER - 185/40 cps — £199.95
This is the one in our packs!
- 80 Column Dot Matrix
- 240 dpi - 9 Pin COLOUR
- 16K Buffer, 8 Resident Fonts
- Push/pull tractor & rear/bottom feeds
- Reverse paper feeds
- Micro paper feed, Max. paper width 11.7"
- Supplied with colour & mono ribbons
- Paper park with auto single sheet loading
- Programmable from front panel.
- 12 month warranty

CITIZEN SWIFT 9 PIN COLOUR - 160/40cps — £199.95
New super high spec 9Pin colour printer
- 8K Buffer 4 Fonts
- Push and pull tractor built-in
- Feed for labels/multi part stationery
- 240 x 240 dpi Colour Graphics
- Best text quality in our 9Pin range
- 2 Year Citizen warranty

STAR SJ48 INKJET PRINTER — £239.95
New super high quality bubble ink jet printer
- 64 Nozzle ink jet
- Emulates Epson LQ and IBM Proprinter for full compatibility
- Complete with AC adaptor
- Large 28K Buffer
- 360 x 360 dpi near laser print quality
- Optional Ni-Cad battery for mains free operation

STAR LC24/200 24 PIN MONO - 220/55 cps — £239.95
Mono version of LC24/200 Colour, same spec except for a smaller 7K buffer

STAR LC24/200 24 PIN COLOUR - 220/55 cps — £289.95
Colour version of the LC24-200 Mono.
- 80 Column Dot Matrix
- 360 dpi - 24 Pin MONO
- 30K Buffer (expandable)
- 10 Resident Fonts
- Front Panel Pitch Selection
- Push/pull tractor & rear/bottom feeds
- Reverse paper feed
- Paper park with auto single sheet loading
- Micro paper feed, Max. paper width 11.7"
- Supplied with mono ribbon
- Faster than the old LC24-10
- Extra font cartridges available
- Program from front panel, No DIP switches
- 12 month warranty

NEW 24 Pin CITIZEN 224 COLOUR - 160/53 cps — £229.95
Brand New, lowest cost colour 24 Pin printer, anywhere!
- 80 Column Dot Matrix with 4 Fonts
- 360 dpi - 24 Pin COLOUR
- 8K Buffer expandable to 32K
- Easy to use front panel controls
- Push & pull tractor feeds
- Complete paper parking facilities.
- Supplied with mono & colour ribbons
- Full 2 Year Citizen Warranty

NEW 24 Pin CITIZEN SWIFT 24E COLOUR - 180/60 cps — £299.95
Brand New, superb specification colour 24 Pin printer.
- 80 Column Dot Matrix with 7 Fonts
- 360 dpi - 24 Pin COLOUR
- 8K Buffer expandable to 32K
- Easy to use LCD panel controls
- Push/pull & bottom tractor feeds
- Complete paper parking facilities.
- Supplied with mono & colour ribbons
- Full 2 Year Citizen Warranty

NEW FASTER STAR XB 24 PIN COLOUR RANGE XB24-200 & XB24-250 - 275/80 cps — £399.95 24-200 Colour; Wide Carriage £499.95 24-250 Colour
These NEW top of the range Stars replace the XB24/10 & XB24/15, & offer the best possible quality dot matrix printing
- Exceptional print quality
- 4 x 48Pin super letter quality fonts
- 14 x 24Pin near letter quality fonts
- Buffer: 29K(XB24/200) & 76K (XB 24/250)
- 360 x 360 dpi Colour Graphics
- 12mths on-site warranty (UK Mainland)

HEWLETT PACKARD PAINTJET COLOUR A4 INKJET — £579.95
Our best quality full colour printer at a realistic price
- Parallel/Centronics or Serial RS232 I/F (specify with order, MAC option available)
- For presentation graphics/DTP, CAD and technical/scientific applications
- A full page of colour graphics in 4 minutes (typical)
- Non impact printing, virtually silent, 43dba
- Will print transparencies
- 12 Months on-site warranty (UK Mainland)

STARSCRIPT - 4ppm POSTSCRIPT COMPATIBLE LASER — £999.95
A4 Laser Printer, will connect to PC, Amiga, Atari ST, Macintosh etc.
- 300 DPI, 2Mb. Upgradable to 5Mb.
- Emulations inc: HP Series II, Epson EX800, IBM Proprinter & Diablo 630
- Complete with "Starscript" (Stars postscript language emulation)
- Serial and Parallel Interfaces
- 12month on site warranty (UK Mainland)
- 49 quality fonts built-in
- Appletalk for connection to Macintosh
- Every desktop publishers dream

SEE OUR LIST OF ACCESSORIES FOR BOTH STAR AND CITIZEN PRINTERS, ALL AT COMPETITIVE PRICES!
All the characters Per Second speeds quoted above are Draft/LQ at 10cpi

PRINTER ACCESSORIES

CITIZEN PRINTER ACCESSORIES:

Citizen 120D+ Sheet Feeder £69.95
Citizen 120D+ Parallel Interface £49.95
Citizen 120D+ CBM C64 Serial Interface £49.95

Citizen 124D 32K Buffer £13.95
Citizen 124D Semi-Auto SheetFeeder £39.95
Citizen 124D Automatic Sheet Feeder £79.95
Citizen 124D Printer Stand £24.95

Citizen Swift 9 Semi-Auto SheetFeeder £39.95
Citizen Swift 9 Automatic Sheet Feeder £79.95
Citizen Swift 9 Printer Stand £24.95

Citizen Swift 9X Printer Stand £34.95
Citizen Swift 9X Automatic Sheet Feeder £139.95

Citizen Swift 24 32K Printer Buffer £13.95
Citizen Swift 24 Semi-Auto Sheet Feeder £39.95
Citizen Swift 24 Automatic Sheet Feeder £79.95
Citizen Swift 24 Printer Stand £24.95

Citizen Swift 24X Auto Sheet Feeder £139.95
Citizen Swift 24X Printer Stand £34.95

HEWLETT PACKARD PAINTJET PRINTER ACCESSORIES:

Hewlett Packard PaintJet
Black Ink Cartridge £24.95
Colour Ink Cartridge £29.95
Single Sheet Printer Paper £21.95
Z-Fold Printer Paper £19.95
Transparancy Paper:
Pack of 50 Sheets £52.95

STAR PRINTER ACCESSORIES:

Star LC-20 Mono Printer
Automatic SheetFeeder £74.95

Star LC24-10 Mono Printer
32K Buffer £67.95 £67.95
Automatic SheetFeeder £74.95

Star LC-200 Colour Printer
Automatic SheetFeeder £74.95

Star LC 24-200 Mono/Colour Printers
32K Printer Buffer £34.95
Automatic SheetFeeder £74.95

Star SJ48 Printer
Automatic Sheet Feeder £54.95
Ni-Cad Battery £39.95

Star XB 24-200 Colour Printer
Pull Tractor £34.95
Font Cartridges -
Styles To Be Announced £29.95
128K Centronics Printer Buffer £89.95
Automatic SheetFeeder £114.95
Dual Bin SheetFeeder £429.95

Star XB 24-250 Colour Printer
Pull Tractor £34.95
Font Cartridges -
Styles To Be Announced £29.95
128K Centronics Printer Buffer £89.95
Automatic SheetFeeder £174.95
Dual Bin SheetFeeder £469.95

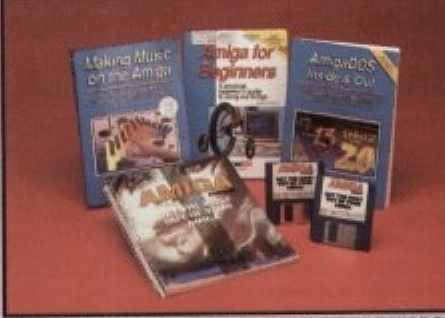


GENUINE CITIZEN & STAR REPLACEMENT PRINTER RIBBONS

PRINTER	PRINTER TYPE	BLACK RIBBON	BLACK RIBBON 'SIX PACK'	COLOUR RIBBON	COLOUR RIBBON 'SIX PACK'
CITIZEN 120D+	BLACK ONLY	£4.95	£24.95	N/A	N/A
CITIZEN 124	BLACK ONLY	£4.95	£24.95	N/A	N/A
CITIZEN SWIFT 9	BLACK/COLOUR	£4.95	£24.95	£16.95	£99.95
SWIFT 24/24E/224	BLACK/COLOUR	£4.95	£24.95	£16.95	£99.95
STAR LC10*/20☆	BLACK/COLOUR	£4.50*☆	£24.95*☆	£6.90*	£36.50*
STAR LC200	BLACK/COLOUR	£6.95 ZX9	£36.95 ZX9	£12.95 ZX9CL	£69.95 ZX9CL
STAR LC24/200	BLACK/COLOUR	£8.95 Z24	£49.95 Z24	£14.95 X24CL	£74.95 X24CL
STAR XB RANGE	BLACK/COLOUR	£8.95 Z24	£49.95 Z24	£14.95 X24CL	£74.95 X24CL
STAR SJ48 INK CARTRIDGE	BLACK ONLY	Also compatible with Apple Stylewriter and Cannon BJ10E Bubblejet			£15.95ea.

BOOK SHOP

FOR BEGINNERS & EXPERTS ALIKE



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From unpacking your Amiga to creating your own icons, includes first use of basic and extras disk. NEW revised version covering workbench 1.3 and 2

AMIGA BASIC INSIDE AND OUT - VOL 2 ABACUS BOOKS, £18.95
Definitive step by step guide to programming Amiga's in basic.

AMIGA MACHINE LANGUAGE - VOL 4 ABACUS BOOKS, £14.95
Practical guide to learning 68000 assembler language.

AMIGA DOS INSIDE AND OUT - VOL 8 ABACUS BOOKS, £24.95
Guide to Amiga DOS & CLI. NEW Edition inc. WB 2.0 (includes Free Help Disk)

AMIGA HARDWARE REFERENCE MANUAL-Addison Wesley, £21.95
Written by technical experts at Commodore Amiga Inc, USA... the people who designed your Amiga. Hardware level machine code programming at advanced level. New revision now also includes Kickstart 2.

AMIGA, BEST OF TRICKS & TIPS Vol. 17, £32.95
A complete set of tricks and tips that enable you to do MORE with your Amiga and as simply as possible. (Includes Free Disk)

GETTING THE MOST FROM YOUR AMIGA [without disks], £9.95
From Future Publishing, the producers of Amiga Format Magazine and fully updated for 1992 OR...
available with 2 HELP DISKS INCLUDED — £13.95

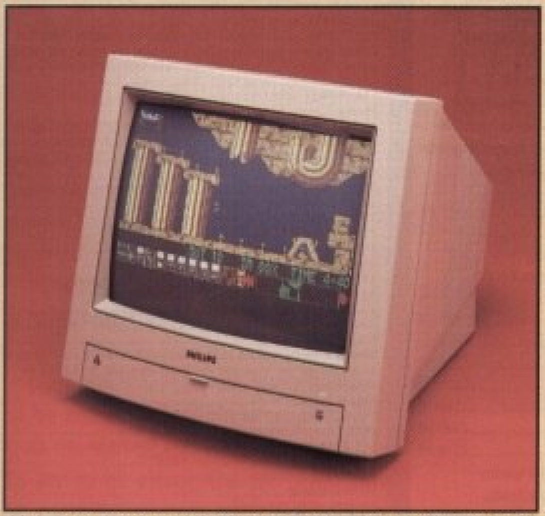
**Credit terms are available (subject to status) for most products; see our ordering panel at the end of this advert for full details*

OPTIONAL 10 GAMES AVAILABLE FOR JUST £10

CM8833 INCLUDES F19 STEALTH FIGHTER

MONITORS & MONITOR TV's

Harwoods stock a complete range of both Monitors & Monitor TV's to give you your perfect solution to the type of display to buy.



PHILIPS CM8833/II
Stereo High Resolution Colour Monitor

The ever popular 14-inch Philips CM 8833 MkII. Its versatility means you not only get excellent colour graphics & text performance with a wide range of personal computers, but when connected to a VCR , you get an amazing 600 pixel TV picture. With the 8833 MkII, Harwoods give you the complete set up, to get you going straight away... Monitor, RGB picture and Stereo Audio Cables, Tailored dust cover, and a full 12 Months on site service warranty.

☆RGB/AD, TTL, Composite. Video & stereo audio inputs ☆Can be used as a TV with VCR or Tuner ☆Also as a Video Camera display monitor ☆Retractable stand ☆Twin Stereo Speakers ☆Headphone Jack Socket ☆FREElead for your computer ☆FREE 12 Month on site service warranty.

THE MOST VERSATILE STEREO COLOUR MONITOR AVAILABLE

£204.95

CBM 1084S STEREO COLOUR MONITOR.

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It's important to remember that most TV Monitors, are still first and foremost televisions, meaning that their average 400 pixel tube display 50% lower resolution than a monitor) cannot be guaranteed to display 80 column text clearly without risking eye strain. If choosing a Television Monitor ensure it has the latest 2000 character tube capability, meaning it can handle the Amigas' 80 characters, by 25 line output clearly.

NEW!!! PHILIPS 15" FASTEXT TELETEXT REMOTE CONTROL 60 CHANNEL MONITOR TV. BRAND NEW SUPERB DEFINITION PHILIPS MONITOR TV. IDEAL FOR AMIGA OR CDTV USERS, GIVING FOR THE FIRST TIME TRUE MONITOR QUALITY FROM A FULL FEATURE TELETEXT TV AT AN AFFORDABLE PRICE!!!. JUST LOOK AT THE FEATURES... ☆Direct Scart Connector for Amiga, CDTV, VCR OR SATELLITE RECEIVER ☆RGB/AD, Composite Video & audio inputs ☆FULL TELETEXT FACILITIES (FOR THIS FACILITY EXTERNAL AERIAL SHOULD BE USED) ☆Headphone Jack Socket ☆FULL TWO YEAR GUARANTEE ☆2000 CHARACTER HIGH DEFINITION FST TUBE ☆SUPPLIED WITH LOOP AERIAL ☆REMOTE CONTROL ☆FREE lead for YOUR computer (*IF YOU WOULD LIKE THE MONITOR TV IN OUR PACKS 2, 3, AND POWERPRO. AT JUST £20 EXTRA. TO REPLACE THE 8833/II, SIMPLY ADVISE US AT THE TIME OF ORDERING*

ONLY... **£239.95**

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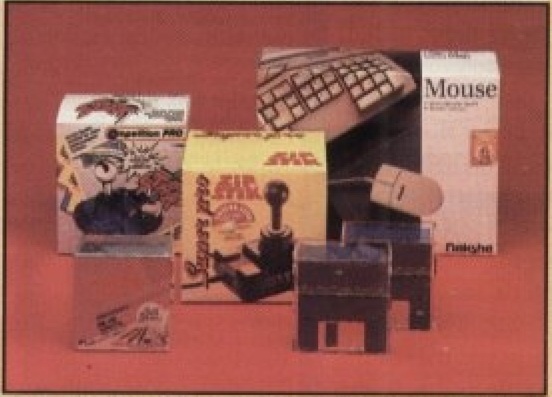
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KCS POWERBOARD IBM PC EMULATOR ☆Allows you to run many popular IBM PC compatible software — **£219.95**
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FULL TESTING PROCEDURE: All computers are tested prior to despatch, and all items are supplied with mains plug and leads as required - just connect up and use straight away.

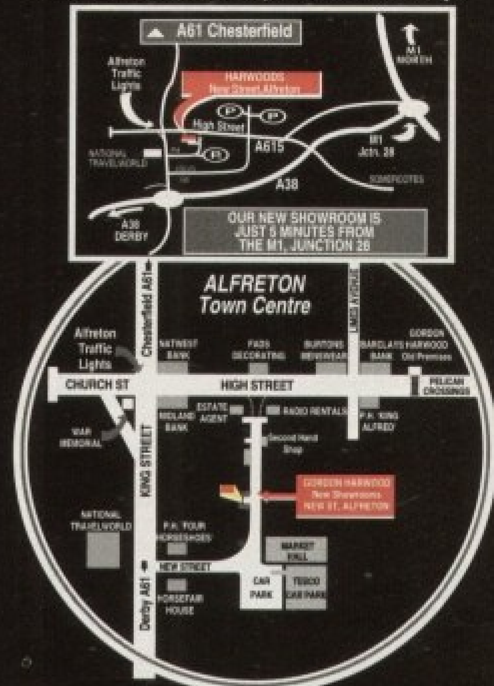
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OPENING TIMES: ***9.00 until 5.00 Monday to Saturday 9.00 until 1.00 Wednesday. Closed on Sundays***



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the DISK

Four way mayhem

Try fitting your brain around Geoffrey Sparks's highly original Tetris variant. We couldn't't...

Tetris has become one of those much emulated games with all the ingredients of a classic – simple and elegant gameplay with more addiction than a noseful of South American talcum powder – so it's not surprising that most of us will think we've seen all the possible connotations.

Tettrix, found on an earlier *AC* CoverDisk, used a horizontal playing area as opposed to the usual vertically dropping bricks, and Welltris introduced a 3D perspective. Quadrix, however, goes one better by throwing bricks at the player from four directions.

To complete each level a set variety of tasks must be completed within a specified time limit. At the start of each level details of what tasks are to be attempted are given. Read these carefully or you'll never finish a level.

The game itself is played on a square playfield with a variety of coloured blocks entering sequentially from each of the four directions. Similar coloured blocks can be stacked in various patterns to complete each level's various tasks.

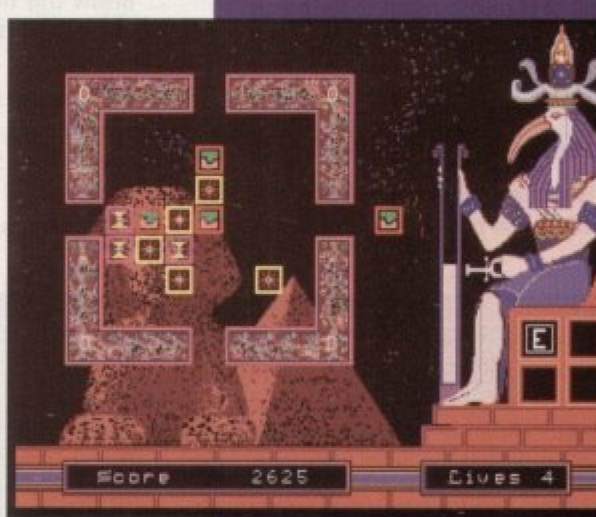
In addition there are a variety of special blocks that have peculiar and useful properties. Understanding these special blocks and the effect they have is essential to completing most levels of Quadrix.

Virtually all control is through the joystick. The central playfield of Quadrix can be scrolled in all directions using the stick, and there is no limit to scrolling in any direction as the playfield "wraps around". Any blocks leaving from one side of the playfield appear on the opposite edge.

The Fire button can be used to speed up the entry of external or moving blocks into the playfield. Most levels will require frequent use of the Fire button to complete the required tasks in the set time.

In addition, the left mouse button activates a "Time Out" and the right button quits to the Game Over sequence.

Keep the basic principles in mind, read the hints document on the CoverDisk, and flex those joystick fingers. You'll need all the help you can get to finish this one!



Quadrix – some basic principles

1. When two blocks of the same type collide they destroy each other.
2. Blocks wait a short time before moving in of their own accord.
3. Some levels have restricted movement, either left/right only or up/down only. The information window for each level will have a footnote listing any restrictions.
4. Some levels are PUSH levels. In these a special incoming block appears whic has the power to move any block it makes contact with. Please note that the incoming block will not start to move of its own account, but must be "fired" in with the joystick button.
5. All patterns except horizontals and verticals must be brought to a central po tion before they are activated.
6. A pattern can be formed from ANY block.
7. The speed at which the timer runs down depends on the colour with which it is filled.

SnoopDos

Author: Eddy Carroll

SnoopDos is the answer to the dreams and curses of any frustrated Amiga owner who's ever copied a program from one disk to another only to find that the program requires an obscure system library or config file in order to run.

By loading up SnoopDos and simply running the guilty program once more, the user can actually watch the system accesses being made in real time, and keep track of which ones are causing the trouble.

SnoopDos has been around for a while, but has never found much of an audience beyond that of the programming fraternity, despite the fact that it could save the average owner a lot of chewed fingernails. To test how it works, just double click on its icon, or select it from the ShortCut menus.

When the program runs, you'll see an uninspiring window appear on your Workbench screen. It is here that SnoopDos will list every secret rendezvous made by your programs.

Feel free to drag the window out to a larger size, because when a complex program runs, the number of files needed and system accesses made can make for a lengthy list.

Now that SnoopDos is running, go to the CLI window left open at the



The SnoopDos window, showing the multitude of files needed to run WordWorth

➤



bottom of the Workbench screen and type:

```
RUN MMPP
```

Within a short space of time, the SnoopDos window will report that MMPP has attempted to access the file requester library of its choice (it can try several until it finds one it likes), and as the file requester library (in this case Arp.library) exists on your CoverDisk, a file requester will pop up on-screen.

To make best use of the program, copy SnoopDos onto a disk of its own or a utilities disk if you use one, and it can be employed when needed.

The program doesn't take up much space, so it could be left permanently on a system disk, but as it is hardly ever used, this would be a waste.

For those with printers, SnoopDos can be forced to output its report to the printer. To enable a hard copy, run SnoopDos by typing:

```
SNOOPDOS -zPRT:
```

All SnoopDos reporting will now be sent directly to the printer using the Workbench preferences settings. Continuous stationery is recommended for this latter option, as SnoopDos will very quickly cover an A4 sheet.

For information on SnoopDos's more advanced options, see the doc files on disk, but for now, may you never lack a library file again.

Chequebook

Author: Eric Randall

Chequebook is another of those utilities designed to make keeping track of your bank account as easy as possible by recording all cheques issued and standing orders paid, then matching these to your groaning bank account.

It won't turn a financial mess into a profitable situation, but it will at least enable the user to see clearly exactly what sort of mess he or she is in.

The program runs on a simple Workbench screen and has only a few menu options to keep things as simple as possible. When first run from the CoverDisk there won't be any data for Chequebook to display, but by selecting Load Account the sample "test.dat" file can be loaded as an example.

At the top of the display the account name and current balance are displayed along with the record number if there are more pages to the present account record than are currently being displayed.

Below this there is a window, initially blank, in which all account details are presented.

To review the state of the account's standing orders, hold down the right mouse button and select Standing Orders from the Update menu. A screen full of financial details will appear, including the name of the standing order, the start date, end date, and amount to be paid on each occasion, followed by the frequency of payment.

As each date is passed, and the program checks the system time on each boot up, the account balance is changed to reflect any standing order payment which has been made.

In this way, the user can keep track of all regular outgoings, as each standing order payment is automatically passed to the transactions side of the program and recorded in the balance sheet.

The idea behind Chequebook is that the user keeps a close eye on his or her standing order outgoings and cheque book expenditure (more than most of us ever do), then compares the monthly bank statement to the already recorded debits.

If a cheque has been issued but has not appeared on the bank statement, it is easy to spot the discrepancy, and if the user wishes the corresponding cheque entry can be omitted from Chequebook's balance calculations.

Chequebook won't turn you into a good housekeeper or sensible money manager, but in this day and age it pays to spend some time every month sorting out where all last month's money went, and Chequebook is a useful utility to help you do just that.



The new prefs screen, for WB2 only, gives the user complete control of Virus Checker

Virus Checker v6.15

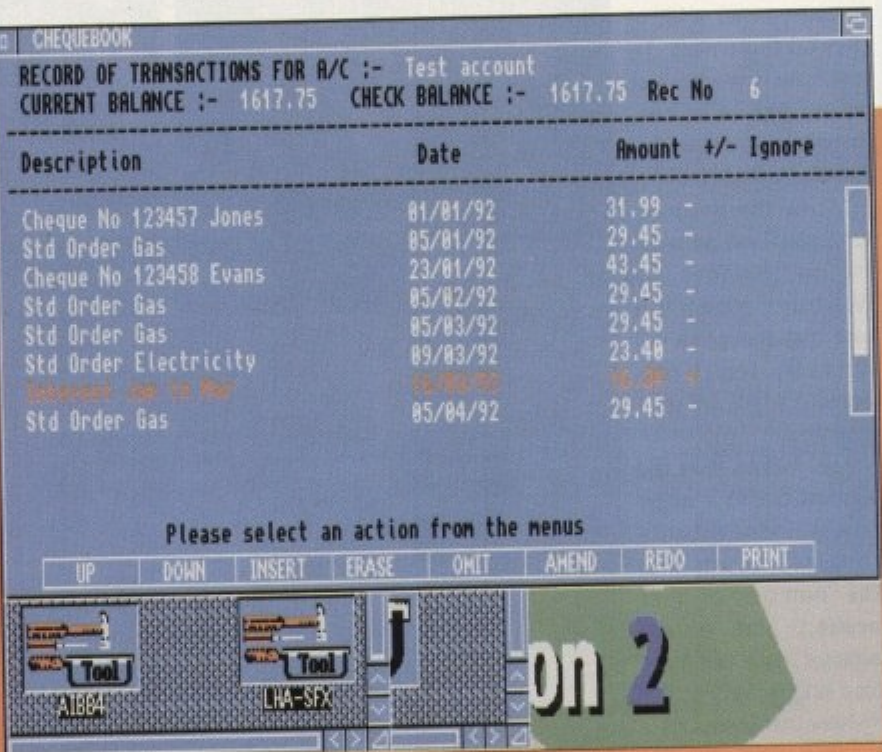
Author: John Veldthuis

The last time we distributed Virus Checker on the *Amiga Computing* CoverDisk, one of our competitor magazines unleashed the Saddam virus on an unwary population only one month later by neglecting to check their own disk as thoroughly as they should have. It was only thanks to Virus Checker v5.32 that most of our readers were spared the nightmare of infection.

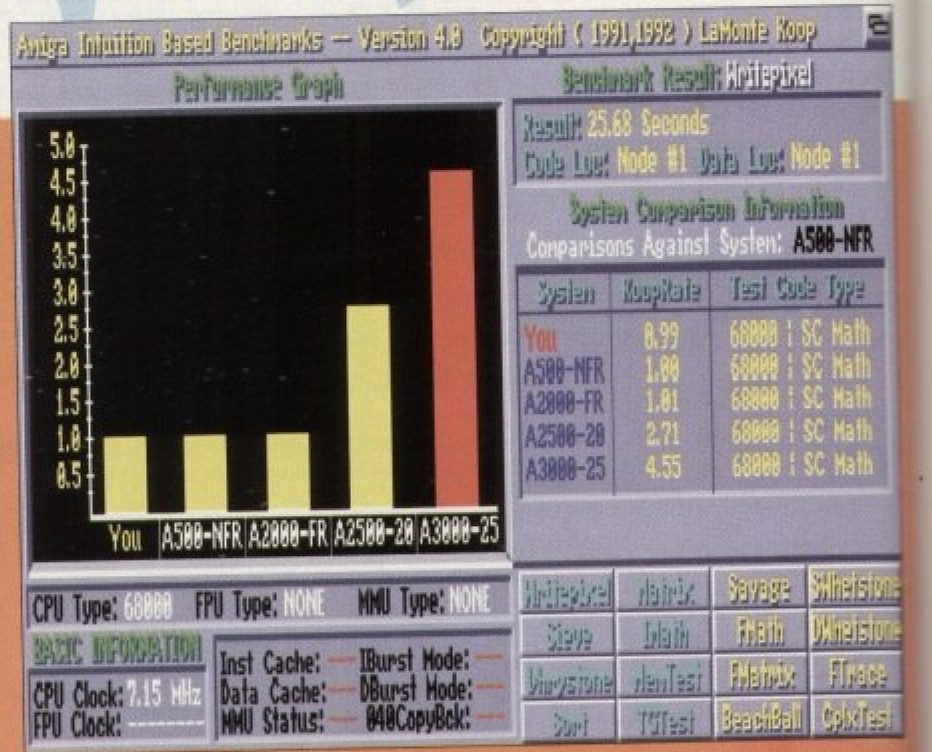
We weren't psychic, nor could we have predicted what would happen to the *AUI* December disk, but the timely distribution of Virus Checker v5.32 illustrates one very important point about the battle against viruses – you can never call a halt to the arms race.

For this reason, we decided it was about time for the latest version of Virus Checker to make its CoverDisk debut.

The program has evolved somewhat since v5.32, and has become much friendlier, especially towards Workbench 2.04 users. Many small bugs have been fixed, lots of new viruses added, and the program no longer treats a Workbench ➤



Chequebook's ability to balance the budget could be indispensible these days



Oh dear, my A500 Plus is slower than an A3000!



➤

2.04 boot block as if it was a virus. In addition, when the user clicks on the Virus Checker window bar, several new features become available.

There are now two menus to choose from, Project and Window. Under Project, options are available for carrying out link virus scans of a chosen disk or directory, complete memory scans, and the detection of Saddam damage on a corrupted disk.

Memory and link virus scans are carried out automatically when the program is run, and all new disks are checked for link viruses when inserted, but the option to re-check a disk at any time can come in handy when there is a suspected virus on the loose.

The Window menu simply offers to close Virus Checker's window or snapshot its position on-screen. If closed, Virus Checker will be invisible to the user until a problem arises, at which time the usual warning requesters are displayed. The window can be re-displayed at the press of a hotkey combination if required.

When the window is visible on-screen, and running under Workbench 2.04, clicking on the Zoom gadget will reveal a half-screen-sized window enabling the user to alter the Virus Checker preferences. The options on offer are fairly self-evident, and are described in detail in the on-disk documentation.

For Workbench 1.3 users, configuring Virus Checker isn't quite as easy. All the relevant configuration commands can be added to the program's icon in the form of tool types, but unless run from Workbench, the icon file will have to be copied into the S: directory of the disk from which Virus Checker is run.

As starting a virus killer from the startup-sequence is easily the safest way to proceed, Workbench 1.3 owners should boot from Workbench and use the following commands to install Virus Checker:

```
COPY
COVERDISK36:UTILITIES/VIRUS_CHECKER/VIRUS
_CHECKER TO C:
COPY
COVERDISK36:UTILITIES/VIRUS_CHECKER/VIRUS
_CHECKER.INFO TO S:
```

The startup-sequence file should then be edited and the line:

```
VIRUS_CHECKER
```

inserted somewhere before LOADWB.

Workbench 2.04 users have a much easier time of things. All they need do to ensure that Virus Checker runs on startup is to drag the program's icon into the WBStartup drawer found on all Workbench 2.04 boot disks.

For those Workbench 1.3 users who might want to configure the program, click once on the Virus Checker icon, then select Info from the Workbench menus. To begin with, there are no tool types specified, but by adding:

```
HOTKEY=(string)
```

the hotkey which pops Virus Checker to the front when the window has been closed can be set to any string the user wishes. For example, "HOTKEY=lalt lcommand shift" changes the hotkey to a combination of left Alt, left Amiga, and the shift key. Check out those documents for a fully detailed look at the tool types and how to configure the program.

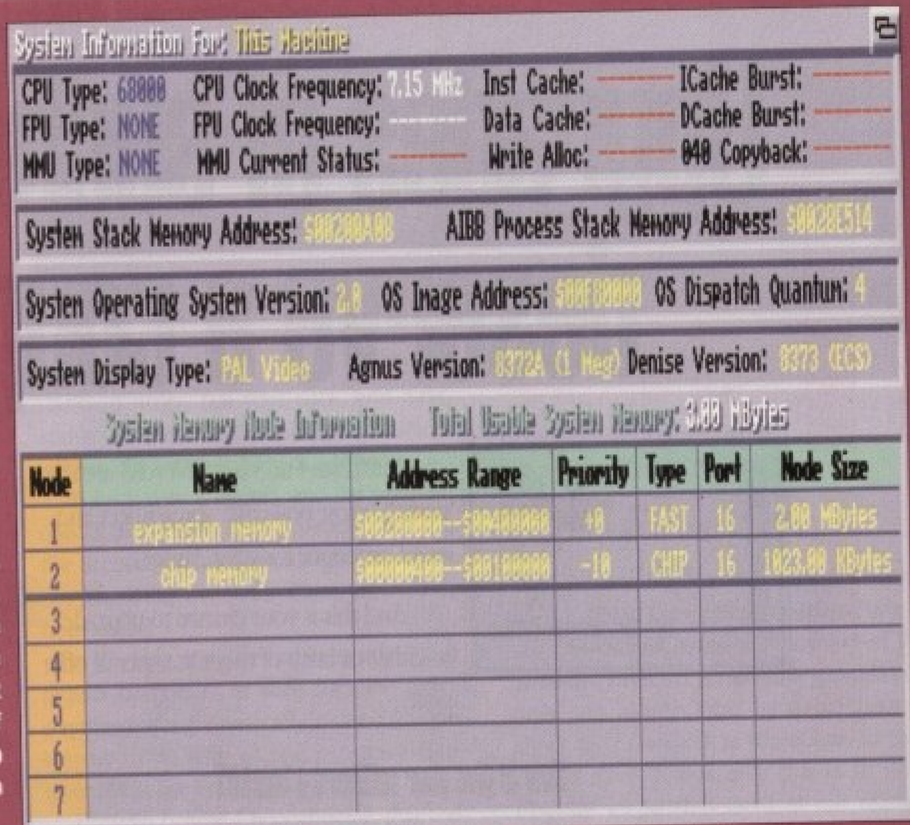
AIBB4

Author: LaMonte Koop

Amiga Intuition Based Benchmarks (AIBB for short) is a program designed to test the speed and processing power of an Amiga using a variety of tests known in the industry as benchmarks.

Over the past year or so, AIBB has become a sort of de facto standard in the Amiga scene, used by magazines, reviewers, and manufacturers when comparing the speeds of different accelerator boards.

There are 16 different benchmarks in this latest version of the program, each of which has been coded to test a specific area of performance, from screen update speeds to floating point maths intensive rendering, and all of which use the performance graph in the top left-hand quarter of the screen to report their results.



AIBB4 can provide useful information on your system

In the top right-hand quarter of the screen, numerical results are recorded, and there's a panel with comparison speeds of the user's machine against a variety of standard Amiga configurations. For more information on system diagnostics, use the Systems menu for complete data on the various machines.

For those with standard unaccelerated Amigas, AIBB is probably of use only to emphasise the relative lack of power in a 68000 chip, but for those with one of the many third-party accelerator boards installed, AIBB can be extremely useful when judging how fast the board is running and what types of operation it is best at.

Unfortunately, because of the nature of benchmarks, no speed ratings are offered for memory access or hard drives. AIBB, in common with most benchmarks, uses very small programs which judge the internal processor speed only, and as the benchmarks usually fit in the memory on the chips themselves, system memory speed doesn't come into the calculation.

For owners of A500 machines who are feeling too cheerful, or really want to know just how much faster a 68040 card can be, the Beachball test is a good yardstick. On a 68040-based machine, the test would take approximately 10 seconds. Try it!

LhA-SFX

Author: Stefan Boberg

LhA-SFX is a utility dedicated to creating self-extracting archives from archives created using the LhA utility distributed on last month's CoverDisk. When an .lha or .lzh archive is given the SFX treatment, it becomes an executable program which, when run or double clicked upon, de-compresses itself.

SFX files are always saved out with the suffix .run, and can be found in increasing numbers on bulletin boards, where the ability to upload and download files which need no archiving program to decompress is in great demand.

For any comms fans, the LhA-SFX program is the ideal tool, and for users who pass a lot of data (IFFs and so on) or programs among a group of friends, LhA-SFX makes life a lot easier.

To test the program, open a Shell window and type:

```
LHASFX {target archive} {destination file}
```

where {target archive} is the full name and path of the archive to be converted, and {destination file} is the name of the self-extracting archive.

Remember not to add a suffix to the destination file name, as LhA-SFX always adds the .run suffix for the sake of clarity.

Other than this, there's not much to LhA-SFX when the program is used for basic purposes, but there are plenty of advanced command switches and options.

Faulty disk?

Subscribers If you subscribe to *Amiga Computing* and your disk has been damaged in the post, please return it to: *Amiga CoverDisk, Europress Direct, FREEPOST, Ellesmere Port, South Wirral L65 3EB*

Non-subscribers If you bought your magazine from a shop and found that the CoverDisk was damaged, please return it within two months to: *Prosoft, Glebe House, Germain Street, Chesham, Bucks HP5 1LY Tel: 081 890 8290*

Please allow 28 days for the delivery of your replacement disk.

If you've read this month's feature on the ScalaMM 200, the Amiga's ultimate presentation system, you can't fail to have been impressed with this truly awesome piece of software.

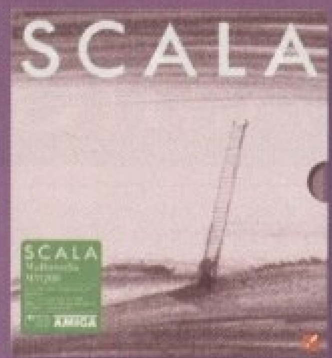
If your finances won't stretch to the asking price, *AC* are offering you the opportunity to get a copy of this amazing product, or in fact any of the Scala family of presentation and tittling systems, absolutely free.

All you have to do is answer three simple questions and the package of your choice could soon be winging its way into your software collection.

Scala MultiMedia MM200

The full-fledged multimedia package for the user with professional demands in video-titling, presentations and interactive multimedia.

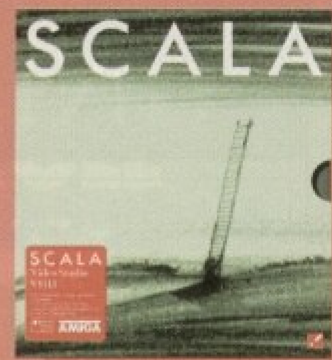
Comes on 8+ disks packed with backgrounds, typefaces and examples.



Scala Video Studio VS113

The Classic Scala that enthused thousands of users for semi-professional video-titling, presentations and interactive multimedia.

Comes on 8 disks packed with backgrounds, typefaces and symbols.

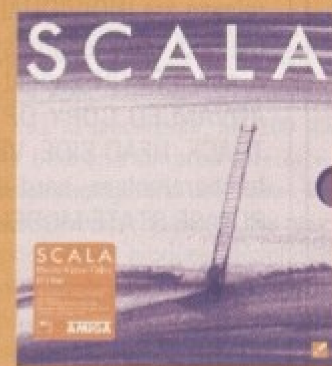


Scala Home Video Titler HT100

Perfect for adding titles to your home videos, using Amiga 500, 600 or CDTV and a genlock.

Comes on 3 disks with hundreds of fun symbols.

Requires 1MB RAM and no hard drive. CD version available.



COMPETITION

AC's sizzling Scala spectacular...

What's on offer...

We're not just offering ScalaMM 200 – the ultimate power package – but a selection of the entire Scala family including two copies of the immensely popular Scala Video Studio and three copies of Scala HT. In short, a package to suit any Amiga system no matter how massive or modest.

For the power users we have the ultimate presentation system, namely ScalaMM 200. A package capable of controlling a huge variety of hardware, from laser disks to Midi instruments, while adding unbelievable graphics, real time animation, state-of-the-art broadcast quality wipes and fades plus an astonishing collection of fonts and backgrounds as standard.

For the semi-pros there are two copies of the original and immensely popular Scala Video Studio, a package that's inspired thousands of classic presentations and video titling spectaculars. The full eight-disk package can be yours for the price of a stamp...

Finally we have three copies of Scala HT, the ultimate home titling system which comes on three disks and runs with just 1 meg of memory. Ideal for those without a hard disk drive. The perfect package for all standard A500 and A600 users.

You are a winner...

After a huge response to our June genlock competition the winners have finally been drawn. Two lucky entries win their very own Rendale 8802 while a third lucky entry walks away with a new Marcam fader box which will be factory fitted absolutely free to their existing 8802...

G Smith Featherstone of West Yorkshire
H Sayer-Thomas of Cwmbran, Gwent
CJ Simpson of Blackpool, Lancashire

ENTRY FORM

Please indicate which package you would like (one box only)

ScalaMM 200 ☐ Scala Video Studio ☐ Scala HT ☐

Questions

1. What is the meaning of the word "Scala"?

ladder ☐
creator ☐
banana ☐

2. Where is La Scala?

Milan ☐
Barcelona ☐
Cleethorpes ☐

3. What is captain Kirk's middle name?

Terry ☐
Tiberius ☐
Tomato ☐

Tick the appropriate box, not forgetting your name and address, and send your entry to:
Scala Competition, Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP

Name ____________________

Address ____________________

____________________ Telephone ____________________

Please tick this box if you do not wish to receive promotional material from other companies ☐

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EMPLANT is the world's first emulation platform for the Amiga! It is a hardware and software system that is designed to allow the emulation of virtually any computer system. All that is required is the **EMPLANT** hardware, some emulation software and the ROM(s) from the computer to be emulated. The **EMPLANT** hardware has been carefully designed for versatility to enable emulation of future computer systems. For this reason, components that are not yet used are present, ensuring that we are prepared for the future. Support for custom EPROMs, static RAM and SIMM modules make the hardware compatible with all existing methods of storing a computer's operating system. This enables us to create adapter boards if a new method of OS storage becomes available. The hardware has four 28 pin sockets for DIP format operating systems (such as the 128K MAC+ ROMS). These can also be used to store utility software on EPROM format. Another option is to have four 32K static RAM's, giving 128K of RAM that you can write protect and make autobooting! A SCSI interface is an option that can be included with the system if required.

The hardware is in two forms: A plug in card that occupies a Zoro II/III slot for the A1500/2000/2500/3000, and a card for the expansion bus on the A500/1000.

Initial emulation is for the MAC IIx, MAC IIci and MAC IIsi computers, with future planned emulations including the MAC QUADRA, Mega ST and IBM AT (386/486).

The full specification and capabilities of the system far outweigh the scope of this advertisement, but a detailed fact sheet can be sent on request. This gives detailed explanations of how emulation is achieved and system requirements. Alternatively, telephone for details.

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KickStart 2.0 is finally here! Unfortunately a lot of older software will not run under OS2.0. That's where the new *KickStart + Board* comes in! You can easily install up to two ROM's by removing your existing ROM and placing it in the *KickStart + Board* along with your new ROM. The *KickStart + Board* then fits in the original socket! Select the 2nd ROM via mouse/keyboard or joystick! This is user selectable!

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Multimedia made easy



Those industrious Nordic types at Scala have done it again with yet another release that's way ahead of its time. But have they gone too far? Paul Austin examines Scala MultiMedia MM200

After a long drive south, yours truly finally arrived at the headquarters of Scala UK for the long awaited unveiling of Scala MM200.

After the obligatory bun fight over the buffet, the unwashed masses sat down ready to be amazed by the Amiga's ultimate presentation package.

Needless to say I wasn't disappointed as Scala UK's leading lights Messrs Thurston and Philips put the new package through its paces.

The program was housed in a suitably well blessed A3000T complete with an eight-way serial expansion connecting a periphery of additional hardware which included a laser disk, CDTV, Canon Ion still video player plus a selection of Midi instruments.

After a brief sales pitch the show began, with the software throwing everything from animation to CD-quality sound into the action plus occasional blasts of Midi, digital video and Amiga samples and soundtracks.

Meanwhile the tireless twosome battled gamely against a less then co-operative touch screen, which did its best to put the mockers on an otherwise stunning performance.

Although full of enhanced features and Amiga-exclusive improvements such as animation spooling direct from disk, sound module support, and complete control over samples, it was the program's external features that the dynamic duo really wanted to hammer home.

As the list of associated hardware suggests, fully exploiting MM200 is an expensive business and points directly to the corporate marketplace that the program is designed for.

Obviously there's no need to employ the full repertoire of Scala options – in fact, it's very unlikely most users will ever need all that the program can provide. But even if you're happy to exploit just a few of the program's capabilities there can still be a hefty price to pay for total control over all the internal options.

If you're one of the lucky few with an A3000, life couldn't be simpler, as the package was obviously designed with precisely these and the machines of the future in mind.

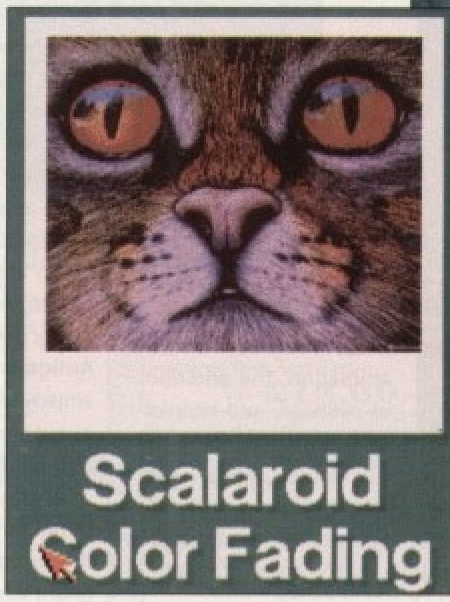
For the average user with relatively limited means, the £460-odd asking price is more than enough to restrict their exploits to the program's internal features, at least for a while.

With amazing animation spooling, sample and module sound, designer fonts, stylish backdrops and a selection of original wipes and fades, the budget user can still produce amazing presentations and DTV without any additional hardware.

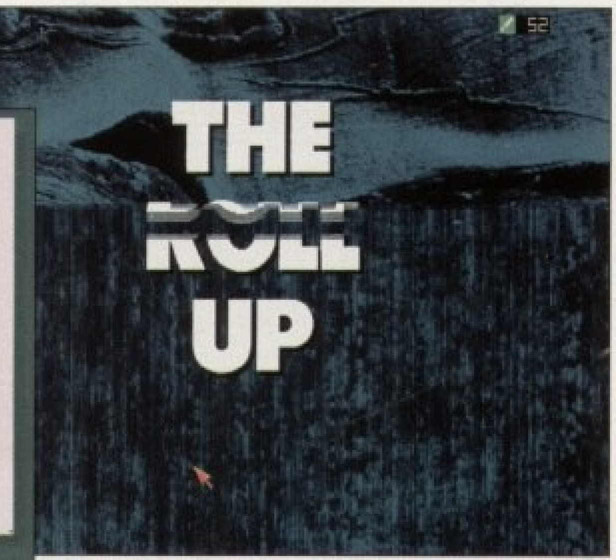
The rest of the package still leaves its predecessor for dead in almost all areas. This is primarily because so many new features have been added, not least of which is control of external devices, the addition of sound, whether it be Midi or via the Amiga, and of course the DTV essential of overscan – an omission which was the major fault within the old Scala in the eyes of many videophiles.

Like its predecessor, MM200 still boasts the best and simplest interface of any Amiga package, and now makes life embarrassingly simple thanks to the new shuffler option which produces thumbnails of the entire show which can be dragged around the screen, and subsequently the script, with the mouse.

Another pleasant addition is the option to record the timing of the script manually by simply activating the option and using the mouse to initialise transitions which are then automatically recorded by the soft- ➤



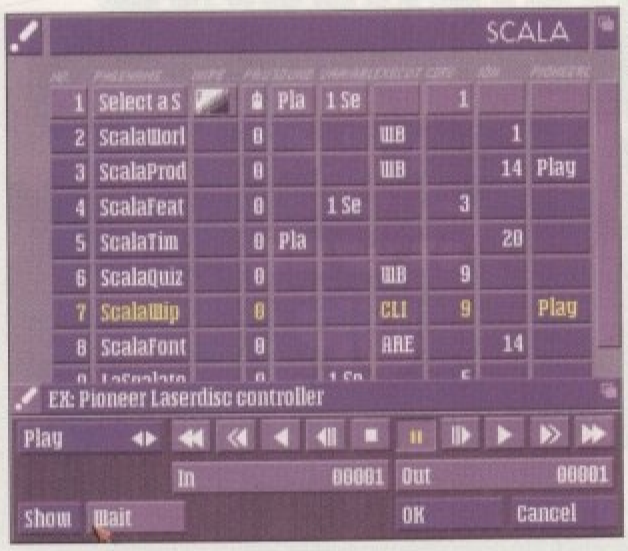
Smooth and stylish colour transition Curtesy of Scala MM200



A classic example of one of the new wipes in action



The familiar face of the Scala system screen, but now fit to burst with EX Modules



Still beautifully simple, but no getting over a whole host of amazing power options

ware. The final new feature of the standard interface is that of optional sound. Unlike its predecessor, the new software has impressive support for sound with 8SVX IFFs, SMUS, Soundtracker and DDS songs all being ideal sound sources.

And no matter what the source, Scala offers full control over volume, fade in/out, balance and playback speed.

As mentioned earlier, sampling is supported directly from within the software with options available for generic, SoundMaster, GVP DSSI and GVP DSSII samplers, in mono or stereo and from either mic or line inputs.

Although the original Scala supported animation, the new Snapload option now spools animation direct from disk, vastly expanding the program's potential as an animation tool.

During the presentation the option was employed to spool an entire digital video quarter-screen Pepsi commercial direct from disk – with an accompanying soundtrack of course. This would have been impossible on the old Scala without a huge amount of additional RAM.

Although enhanced animation, the addition of overscan, and internal sound is wonderful news for the vast majority of users, Scala – the company – are obviously pinning their corporate aspirations firmly on the most revolutionary addition to the new program, namely Scala EX.

This is the system at the heart of the presentation mentioned at the beginning of the article which allows the control of external devices via serial connection.

Modular

Like all the major Amiga power packages, Scala has adopted the modular approach which allows expansion without constant upgrading of the main program.

Thanks to the EX system Scala hope to add any multimedia application to the Scala environment by simply issuing a new EX module.

Six such modules come as standard with many more on the way. New modules are already in the pipeline including Elan video control and SMPTE timecode.

Again, to enhance the program's multimedia appeal additional interactive options have been added via Scala's famous buttons, and indeed the main screen now has the ability to affect variables which could then be used to compile data via Lingo – Scala's own proprietary multimedia language.

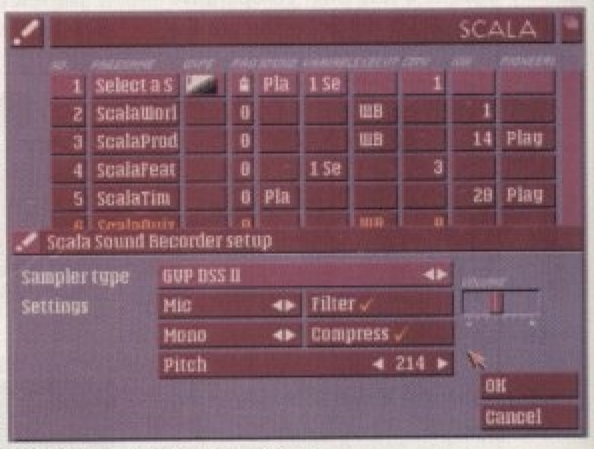
All such data could then be retrieved at a later date, giving the package a new lease of life as an interactive market research tool. It's also possible to start one script from within another via the Lingo ARexx combination, run DOS applications and send ARexx commands. As a result, almost any Amiga-based application could be employed as part of a presentation.

Bandwagon

As you may have guessed, Scala is now firmly on the ARexx bandwagon and has the option to save scripts as ARexx programs which can then be run from – and in concert with – any other ARexx-conversant software.

One of the few disappointing features for the upgrading community is the lack of new fonts and backdrops. According to Scala UK this problem will soon be rectified by additional Art Libraries and a whole array of fresh backdrops and typefaces, as well as specially composed music and sound samples – which will no doubt cost...

Overall the package has all the options that existing Scala users have been waiting for, but not without stretching the machine to its limits and in some cases beyond. Nevertheless, with features such as Snapload, the EX system, optional overscan plus complete control over audio whether it be Midi or otherwise, Scala MM200 is the kind of software that many serious users simply can't afford to be without.



Internal sampling from a variety of sources, just one of many MM extras

Getting it

Existing users can upgrade for £199 while first time buyers will need to invest a heart-stopping £464.12. Though expensive in Amiga terms it's worth remembering that MM200 is state of the art commercial software which would cost ten times the current asking price on either the PC or Mac – if they could do the same job, which of course they can't.

Scala MultiMedia MM200 is available direct from Scala UK Ltd. If you require any additional information or wish to buy or upgrade contact either Barry Thurston or Dennis Philips on 0920 444294.

The new wipes and fades

Unfortunately there's one area which the budget user without an A3000 won't be able to explore, and that's the program's much-hyped additional wipes and fades. Another 25 brand new effects have been added on top of the existing selection Scala users know and love from MM200's predecessor.

But only the A3000 community will be able to benefit from their inclusion, as 2Mb of chip RAM is essential for all but one or two of the new effects. Obviously this is bad news for the vast majority of us with 1500s and 2000s limited to just 1Mb as standard.



The excellent super-impose in action offering near-Toaster quality transitions

After a brief pause for a bout of depression I realised that all was not lost. DKB software supply a product entitled the MegaChip 2000/500 which adds the necessary 2Mb minimum to rest of the Amiga range for £120.

To test the theory I fitted the aforementioned chip to a 2000 with a GVP 030 40MHz Combo and sat back as the new wipes still refused to work.

It's true that animation and all the original wipes were smoother and faster than ever and the irritating "out of memory" requester vanished completely, but no matter how much tinkering was applied the new effects still refused to work.

The only other system configuration theoretically capable of displaying the new effects would be an A500 Plus or A600 with a 1Mb expansion in the trapdoor giving the necessary 2Mb required for the extra wipes.

Alongside the chip RAM you'd also need at least 2Mb of fast RAM, a hard disk and preferably an accelerator. In the case of the A600 you'll have to wait for the release of everything but the RAM and the hard disk, while A500 Plus users would be well advised to wait for the GVP A530 hard disk, RAM and accelerator combination.

Unfortunately, much of the aforementioned hardware isn't available as yet, so I'm afraid there's no guarantee of success. Keep a close eye on our monthly update column for more news on chip RAM, hardware and MM200 as it happens...

The really annoying thing is that many A1500/A2000 owners already have systems which easily outstrip a standard 25MHz A3000, and yet even with the chip RAM upgrade the new wipes are still out of reach.

For power users with 040s, opticals, large and removable hard disks, huge RAM expansions and other such peripherals bolted onto their machines, the prospect of selling up and investing in an A3000 isn't going to be popular, especially with the A4000 on its way in the Autumn.

Although the wipe and fade problem does cast a cloud over the package, they're only a part of the overall system, and although disappointing, any prospective investor would be mad to write off the whole system because one of the options isn't universally available.



An oldie but a goodie – an original wipe still on offer to the 1Mb community

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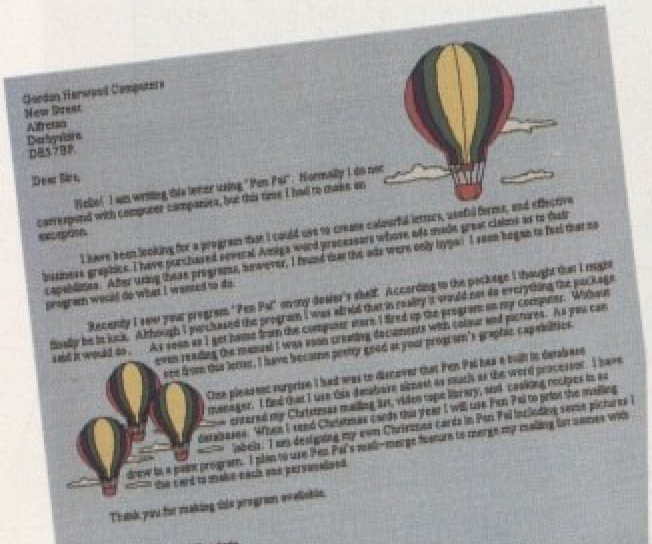
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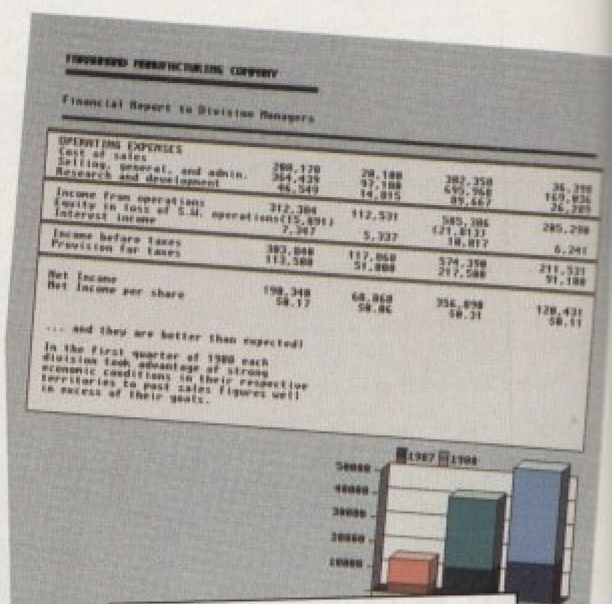
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AMIGA Update

As the Amiga and its software go from strength to strength, *AC* brings you the ultimate guide to upgrading...

Due to the immense pressure applied by this month's stunning features list, the Updates column has been temporarily cut down to a single page.

We'll try to make amends with a detailed look the new Real3D 1.4.2 and arguable the best structured drawing package on the market, namely the all-new ProDraw3.0.

ProDraw 3.0

Structured drawing on the Amiga has always been a touch embarrassing when compared to some of the programs available on the Mac and PC.

Colour was never a big issue with the older packages, nor were the special text and graphics effects which make the best programs so powerful.

With the release of ProDraw 3.0, however, Gold Disk would appear to have dragged Amiga structured art into the 90s.

Launched months ahead of its potential rival, SoftLogik's Art Expression, and with the advantage of availability over ProVector, Professional Draw 3.0 is without competition. Whether the program will shine quite as much when battling it out with the other two is another matter, but for the moment it is far and away the best structured drawing package for the Amiga.

Additions to the ProDraw 2.0 formula include gradient fill (at last!), special effects such as Blend (morphing to you and me), full support for 24-bit IFFs, and much improved PostScript output options.

The whole shebang has been wrapped in swaddling 3D requesters identical to those used in ProPage 3.0, and to top things off, the ProPage ARexx Genies have been included.

These lend a new dimension to ProDraw, enabling among other things an ADPro hot link for bitmaps, and make the user-definable macro a feature whose power is limited only by the user's ARexx expertise.

Therein lies the rub, though, as precious few users will have much of a clue when it comes to ARexx programming.

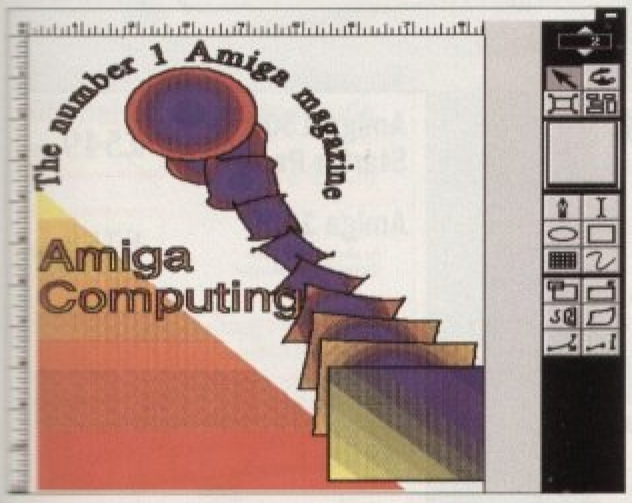
There are 36 ARexx Genie macros included with the package, and a generous 300-odd commands are built in to the program's ARexx interface, but there is no auto-record macro function, so users will have to design their own from the ground up.

The first job might be to re-program the ADPro hot link, which doesn't appear to work.

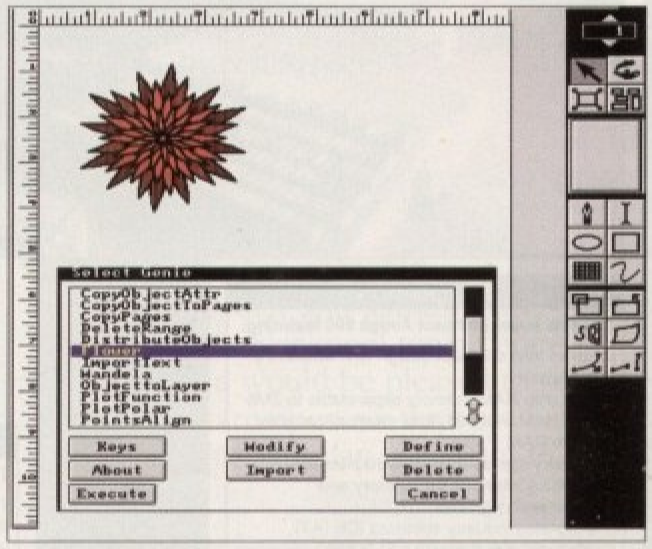
This is fine for the programmers out there, but not many artists and graphic designers are programmers, and as these often non-technical users will be the package's main market the Genie feature should be much more automated.

In this day and age, simply bolting an ARexx interface onto a program is unacceptable if the power and flexibility of the language are to be realised.

Aside from the Genie gripe, ProDraw 3.0 will give the user very little opportunity to complain. The extra features have been well implemented and all are solid improvements offering increased power and functionality. To aid the ProDraw 2.0 upgrader, the new functions have been given their own supplementary manual, so finding and making use of the program's latest talents is a quick and easy operation.



Capable of truthful, as well as colourful effects



Arexx in action as the ProDraw Genies flex their muscles

Pantone colour support has been built in to the colour requester, PostScript output specs for printed pages are now much more controllable, Adobe Type 1 fonts can be used once converted to CompuGraphic format with the font manager, and text can now be typed directly onto the page.

Gradient fills

A particular favourite with most users will be the gradient fills. These can be used in either linear or radial mode, and the angle of fill or radial centre can be defined by the user, giving a flexible range of fill effects for most jobs. Just the thing to gee up tired presentation and drab visual impact.

All in all, ProDraw 3.0 is a powerful and flexible drawing package which answers most of the questions one might ask of it. Whether it will come out on top in competition with Art Expression and ProVector is one particular question we'll be answering when the SoftLogik product is released and we go head to head on all three. Watch this space.

RealDCTV

After a long time sitting in the shadow of Imagine – the only ray tracing package capable of producing DCTV images – Real3D has finally come good and now lends its impressive output to the aforementioned format.

Once installed with the supplied library, a collection of options appear allowing you to completely define the output and save format of the rendered file.

As you'd expect there are the usual options to define interlace and overscan. In addition Activa have added an invaluable option to specify whether the render is to appear as a three or four-bitplane image.

The advantage of the three-bitplane format is its improved speed while rendering and enhanced playback during animation, while the higher quality four-bitplane variant offers the best possible display for stills.

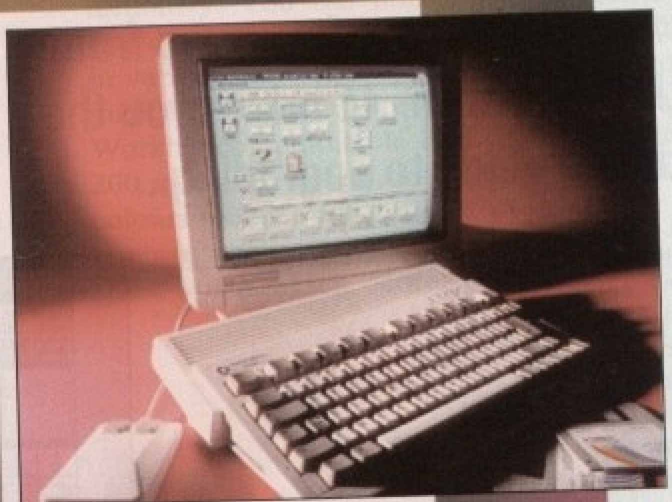
Another pleasant addition is the option to employ a 24-bit buffer into which a true 24-bit image is rendered. With this option active it's possible to view the DCTV display but still save the output as a true 24-bit Targa or IFF.

Although DCTV support is an impressive addition, it's only the start of what Real can offer via the new library-based design. Rather than releasing a new version of the software to accommodate every 24-bit board on the market, Activa have opted for the library design which means any board – with a dedicated library – can be catered for, without the need to upgrade the package itself.



My only slight complaint is the software's apparent dislike of rendering animations in full overscan with interlace which emanateS from its predecessor,. Real3D 1.4. Other than this minor inconvenience, it's just what the Real world has been waiting for.

COMPUTAWORLD



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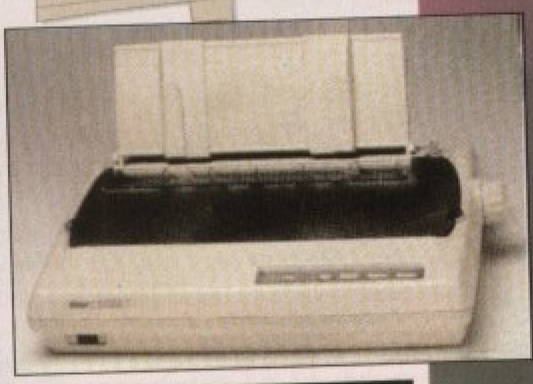
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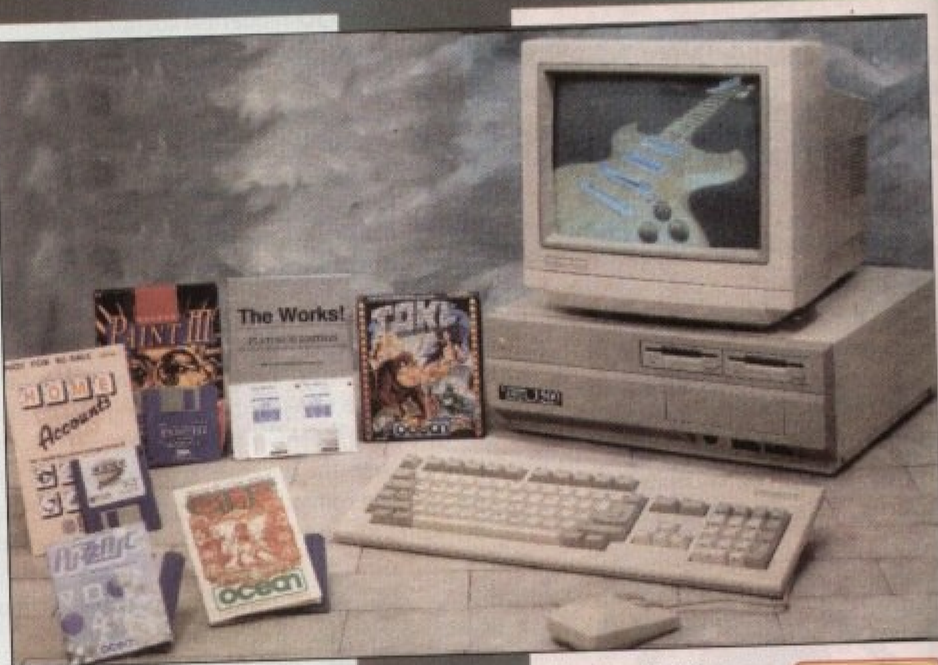
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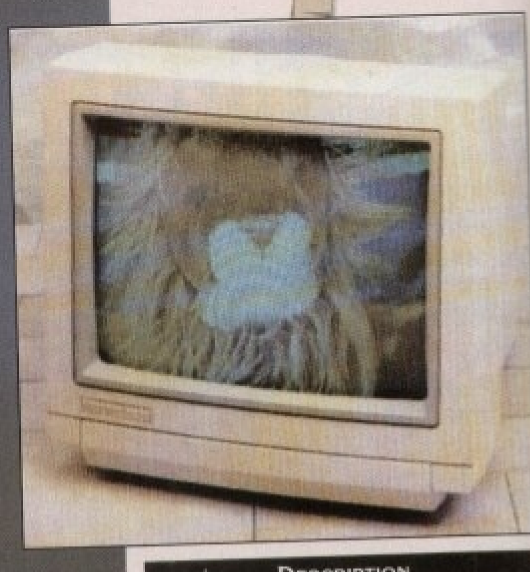


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The word game *part 3*

Good presentation is half the formula for publishing success. Stevie Kennedy looks at how it can be improved

In this final part of our mini series on getting into print, I'll be going back to the design stage to look at ways in which the inexperienced can avoid some of the more fatal and often encountered pitfalls on the road to the presses.

There are two obvious components in every published page – words and artwork. Treating them as two different problems, it can be a rewarding exercise to go back to first principles and examine them both from the ground up.

Artwork is the most common disaster area for publications, even long established magazines. With dodgy or crass illustrations, or badly constructed graphic elements which destroy a page rather than enhance it, a magazine can soon lose its instant appeal, which is something any magazine needs if it is to entice new readers to pick it up off the shelves.

Basic rules

When producing a title of any kind, the amateur publisher should stick to a few basic rules. Always use structured drawing tools whenever possible, keep it simple, and use clip art at your peril.

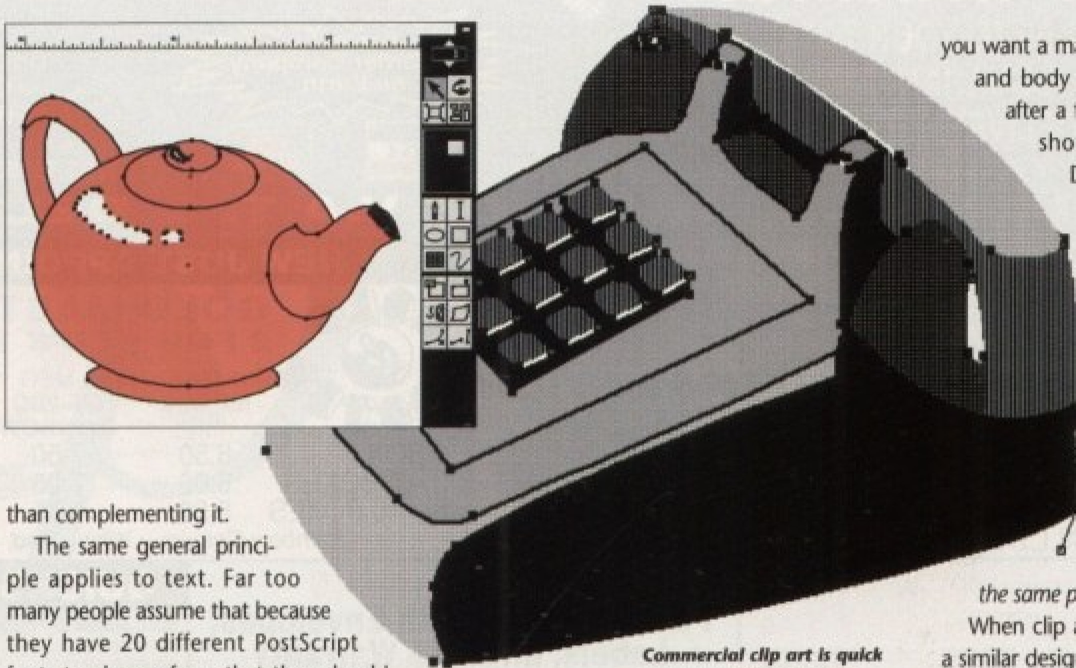
Artwork from a structured drawing package will be in one of two forms, either a proprietary "clip" format, or the EPS industry standard. Clips are just structured drawings, and most packages will output DR2D clips, which is the structured drawing equivalent of the IFF.

Others, such as ProDraw, will also produce their own formats which often offer enhancements over DR2D, but the format is unimportant as long as it is recognised by the DTP package.

EPS, or Encapsulated PostScript, is an industry standard used by PostScript compatible laser printers and linotrons, and has several advantages over clip formats, not the least of which is its complete support for colour.

Always use EPS when possible, though be aware of the fact that files in this form will take up a great deal more memory than clips.

In design itself, one temptation to avoid is the tendency to go over the top with graphics, either using far too many, leading to cluttered pages, or using tilts, crazy angles, and weird special effects which confuse the reader or dominate the text rather than complementing it.



Commercial clip art is quick and easy, but unoriginal

The same general principle applies to text. Far too many people assume that because they have 20 different PostScript fonts to choose from that they should use them all. In this game, more is definitely not better.

No more than three or four different fonts should be used in any one magazine, and even fewer in smaller productions.

As each font has a variety of typefaces, such as bold, bold-italic, black, and oblique, a single font can often be used to great effect with just a little forward planning.

The *Guardian* newspaper, for example, uses Helvetica for its masthead (or logo), but because the typeface is actually Helvetica Black (very bold and thick), the difference between this and a letter you might print using Helvetica Narrow is immense.

Similar type

Similar fonts with a variety of typefaces means design flexibility without the sort of clashes caused by using two incompatible fonts, so keep it simple!

Again, the general style of fonts should be the same. Broadly speaking, fonts can be separated into serif and sans-serif. The former includes Times Roman, and any font with small outward, upward, or downward sweeps at the end of the letters.

Sans-serif fonts have no such ornamentation, and include Stone Sans, the typeface in which this article is printed.

A mixture of serif and sans-serif fonts is a catastrophe in the making and should always be avoided, as should the conjoining of serious and frivolous fonts.

Times Roman, for example, a sober typeface used by many newspapers, should never appear in the same publication as Lefty Casual.

If your publication is designed for a frivolous audience, by all means use the wacky fonts, but stick to them and don't resort to pic 'n' mix.

Selecting the right font for the job is another vital consideration. Helvetica Black, or Futura Bold, or another large heavy typeface make for ideal headlines, and Stone Sans makes for good body text, but it's surprising how many people select unsuitable typefaces.

Headline fonts should always be big and striking, and can be used in smaller or lighter form for sub-heads or cross-heads. Body text should always be printed using a font selected for its clean, readable look, even at small type sizes.

There's no way around these rules unless you want a magazine with wimpy headlines and body text which blinds its readers after a few pages. The use of clip art should also stick to font rules. Don't mix styles, as is so easy when choosing someone else's art from a large collection of clips, and don't use it often.

A magazine which employs a professional layout artist or art editor, such as *Amiga Computing, will always retain a consistent graphical design because the artwork is generated in-house and usually by the same person.*

When clip art is used, no two clips share a similar design style (unless from one of the few high quality collections around), and many are all too obviously pasted straight into the publication.

A structured drawing package and a few weeks' practice could pay for themselves ten times over in the design department.

Miss out on even one of the basic rules, and your publication could quickly fly apart at the seams as you concentrate on the supposedly more difficult aspects of putting together a mag that people want to read, yet neglect the basics which underpin everything found in print. AC

Why structured art?

Structured drawings, such as those output by ProDraw, ProVector, and so on, are much more accurate than bitmaps and look infinitely better if PostScript output is utilised.

Most professional magazines these days use Macintoshes with Adobe Illustrator for their own artwork, but a decent Amiga with ProDraw 3.0 should be able to match the Mac.

Structured drawings are defined not by a series of dots, as in bitmaps, but by precise mathematical instructions to the printer or program which is responsible for reproducing them on paper or the screen.

For this reason, they can be scaled and rotated without loss of clarity or the encroachment of jagged edges.



The same font with and without serifs. Mixing these two typefaces would look messy

Ezra Surf's Postbag

Got something to say through the pages of AC? Ezra Surf is our mailman, dedicated to sitting in a corner reading your letters and selecting the most interesting for publication.
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Psycho VI

Please could you tell me if I can convert my 1.3 A500 to an A600 by hacksawing the numeric keypad off? Also, can I convert my internal floppy drive to a hard drive by giving it a shotgun?

D Hancock, Flushing

My advice to those considering the above upgrade would be to immerse themselves totally in a liquid of some sort (fresh water is best unless you have a hosepipe ban, in which case old bathwater will suffice) until the world turns back up the right way.

Step two is to carefully box up all sharp objects you can find and send them far away by air mail. Australia would be nice, but as long as the risk of Amiga mutilation is removed, you should be back to normal in a couple of years or so.

Unhappy customer

I am into my second year as a subscriber with your magazine and enjoy your well balanced articles. I have been keen on computers since the release of the Spectrum and have owned two Spectrums and an Amstrad CPC6128.

For many years when I changed from Spectrum to Amstrad I considered buying a Commodore 64, but it wasn't compatible with anything and you even had to buy the expensive Commodore tape player.

When Commodore developed the Amiga it wasn't compatible with the C64 or Vic 20, but there was a lot of third-party hardware and upgrading was a simple matter of replacing the ROM chip.

This looked like the machine for me, so I bought an A500, a 20Mb hard drive, extra drive, modem, and 2Mb RAM. Last year, the A500 Plus was released, and with a chip upgrade to my machine almost all software will still run happily.

My biggest question now is why are they discounting the Amiga 500 Plus in favour of a games machine which will not even accept my modem let alone my hard drive? I should have trusted my instinct and maybe opted for an IBM, as any IBM-compatible will accept my modem at least. If Commodore don't pull some trick out of their sleeve in the next year or so I will be forced to sell my Amiga before it becomes a dinosaur bereft of support.

If it comes to this pass, I certainly won't be buying anything else from Commodore.

S T Gunn, Waikaremoana, New Zealand

I can only sympathise with any Amiga user trying desperately to fathom some logic or purpose in the Commodore marketing plan (assuming one exists) or the company's ➤

Amiga versus PC

Prize letter

I have recently noticed several letters from people considering swapping their Amigas for PCs. If I were them, I'd save my money and stick with the Amiga.

I use a 33MHz 486 PC at work which has 4Mb RAM, 100Mb hard drive, and SVGA graphics, which is an impressive setup for number crunching applications, but I often think my old 1.2 Amiga could wipe the floor with it in many areas.

The major problem with PCs is that they are based on dated technology. Manufacturers keep coming up with new wrangles to boost performance, but there's no getting away from the PC's roots.

For example, standard memory is limited to 640k, and all other memory has to be configured as an assortment of other types, such as extended or expanded.

MS-DOS v5 isn't bad, but it's not as friendly as AmigaDOS 2. Commands aren't as intuitive or English-like, and some operations are a lot more hassle.

Imagine having to load a mouse driver during boot up, and that many mouse drivers conflict with other programs. Imagine also that your mouse often doesn't point at every pixel on screen but only at text blocks of eight by eight pixels.

Windows is an experience after Workbench 2.04. It uses a cack-handed way of associating icons with files that alone would take pages to describe.

You need to run a SID-type utility just to see what's on a disk because Windows has no disk icons, and if you do want to use MS-DOS, you have to drop out of Windows into a full screen DOS window because you can't use DOS and Windows at the same time (although this may have changed with Windows 3.1). In addition, Windows doesn't handle multitasking very well. Things go very slowly, tasks go to sleep if you use another one, and so on.

Effectively, you can have multiple tasks in memory, but you can only be doing one thing at a time unless you want to go at a snail's pace, which is hardly multi-tasking.

The size of software packages is becoming a joke. OS 2/2 takes up 30Mb of hard drive space, Corel Draw 3 takes 30Mb, and Word for Windows 2 (a wordprocessor) takes 15Mb. That's 75Mb for an operating system, a paint package, and a wordprocessor!

Next time your PC-owning friend tells you how good the PC is, just ask them whether they are running in Real, Protected, or 386 enhanced mode, with DOS loaded in High, Extended memory, EMS, or XMS, or whether they just switch on and let Gary, Denise and Agnus do it all for them.

There are some good things about PCs, of course. They are getting cheaper all the time, have hard drives as standard, and decent graphics. However, I'm not overly impressed with the software. Which would you rather have come free with your new computer, Paintbrush or DPaint III?

If Commodore could reduce the price of the Amiga yet improve its speed to the equivalent of a 386 or 486 they would have a world beater. For the Amiga to compete it has to be brought up to date.

Memory should be added directly to the motherboard as SIMM modules to avoid us using third-party boards, there should be new graphics modes to compete with SVGA, a range of processor options, and interlace must go! Hard drives should be fitted as standard, too.

Alan Harding, Norwich

Commodore, though in a slow and cumbersome fashion, have been doing all of the things you suggest for a couple of years now. The A2000 HD was released with a hard drive as standard, the A3000 used a 25MHz 68030 (the equivalent of a 33MHz 386), and the A600HD has a hard drive built in.

The new machines with their AA chips will jump all over SVGA PCs in terms of graphics, and if, as suggested, they are based on the 68030 chip, they will also compete in terms of speed with even the fast 486 machines given that the Amiga's operating system is so much more efficient than Windows.

To lend some concrete perspective to the issue of whether it's worth selling your Amiga for a PC, we'll be looking at both machines from the buyer's point of view and giving our verdict. Look out for the head-to-head heavyweight bout in a forthcoming issue.



plan for the development of the Amiga (ditto).

The official reply to any probing on Commodore's future plans is that "Commodore will continue to develop and improve the Amiga", which can mean almost anything.

What in effect has been happening over the past year is that CBM have realised the Amiga's seven-year-old design is lagging behind the competition and have attempted – to their credit – to tweak the old design while waiting for the development of a new range of machines.

These machines, with vastly improved graphics and faster processors, should be on sale before the end of the year, and should be compatible with any software which works on the A500 Plus, so don't despair of your existing software collection.

As for the hardware, your A590 20Mb hard drive is, I'm afraid to say, lamentably out of date in any case, but your modem will work with the new A600 as the machine has exactly the same serial port as the older Amigas.

Problems with compatibility are inevitable when a design is changed, but I think we would have a lot more to complain about if Commodore sat on their laurels and made no attempt to bring the Amiga into the 90s.

Baffled beginner

I am writing as an Amiga owner of some three years, but I have only just started using it as a computer rather than a games machine for my kids.

I recently left HM Forces and returned to my UK address from Germany, where Amiga mags were in short supply. Over here, there seems to be a multitude of choice, though your magazine seems to be the closest to my requirements for an Amiga magazine, and I thought the CoverDisk was useful.

I am trying to come to terms with CLI, directories, and so on, and I'm having problems copying things from disk to disk. Also, the NClick program on a recent CoverDisk looked very tempting, but will only work with Kickstart 2.0 or later. Can you recommend a similar program for my 1.3 Amiga or do I have to upgrade my system?

I was especially pleased to find your beginners' section, but as I have only just started buying the magazine I seem to have jumped in the middle of things. Can I get some back issues to solve my problems? I would also like to subscribe to your useful magazine.

I'm not thick, but I find that I keep hitting problems and I do not know any other Amiga users who could answer my day to day problems. If you could help I'd be grateful.

Dennis Bates, Widewell

To take out an Amiga Computing subscription, find the double page subscription offer in the current issue and all the information you need should be there.

As for back issues, you can usually pick up the last six months' worth by filling in the back issue form. This floats about a bit, but can usually be found towards the rear of the magazine.

NClick, as you found to your chagrin, is a Kickstart 2.04 program, but there are plenty of anti-click programs for older Amigas in the public domain.

Turn to our Public Sector column, find a PD company advert containing a few utilities disks, then phone the company to confirm that they have a general disk containing such a program. The added advantage is that you'll also receive a disk packed with useful utilities.

Bob record

With all the ongoing talk about Amiga software compatibility, I think developers should look back to a programmer called Bob Dinnerman. He has written code which in my opinion is a record.

Let's look at his achievement. What runs on all the following configurations?

Kickstart 1.2 with Workbench 1.2, KS 1.3 & WB 1.3, KS 1.2 & WB 1.3, Workbench 1.3.2, Kickstart 2.04, 68010, and 68020/68881

Answer: F/A 18 Interceptor. I know this for a fact as I have upgraded my Amiga through all the above since 1987. Is this a record for a game?

By the way, with a little tweaking, it's also possible to install it on hard drive. Less talk and more compatibility with all 680x0 CPUs and hard drives, please!

Andrew Roddis, Lisburn, Co Antrim

For some reason, this sort of clean coding is the exception rather than the rule, despite Commodore's excellent developer service which provides full programming guides (written by the Amiga's designers) to help avoid incompatibility or gurus.

The problem with most games software is that, more often than not, a game's graphics and other marketable qualities are the first concern of the software houses.

In any case, system legal code is almost impossible when the copy protection breaks every rule in the book, and most commercial software houses have a short-sighted view of a game's profit potential rather than the more ephemeral coding procedures used by good programmers.

We seem to receive more and more letters on the subject of hard drive installation, which reflects the growing number of Amiga owners who have hard drives. If every such owner wrote to the most obvious offenders among the larger software houses, perhaps we would see some action. It's up to the public to demand, or the profit seekers will never supply.

Whither the A530?

I am a new user of the A500 Plus and have added a second drive and some more RAM. Now that I'm reasonably familiar with the machine and the operating system I'm planning to do some more serious programming, and to this end I thought I should get a hard drive.

After a careful examination of the adverts in your magazine, I decided on the GVP A530, which seems to offer the kind of performance I'm used to at work where I use fast PC clones.

I ordered the item on May 31 from First Choice Computers, having seen their advertisement in the June issue. They telephoned me the following day to say that the A530 wasn't yet available in this country but should be here in three to four weeks. There wasn't much choice but to wait.

After four weeks and still no A530 I called again, and this time they told me that not only hasn't the unit been released in this country, it still hasn't been released in America.

I strongly object to companies advertising products that they don't have in stock and have no immediate prospect of stocking. had hoped that practices like these had died out since the days of Sinclair and the QL. Meanwhile, I can only wait until the manufacturer and distributors get their acts together and supply their customers.

Nicholas Redgrave, Clevedon

As you pointed out, many advertisers have featured the A530 and quoted retail prices, not just First Choice, despite the fact that the item is not in stock. Our advertising people are aware of the problem and will request that advertisers make clearer when a product is actually available.

You seem to have been lucky in your choice of retailer, as the company went to the effort of phoning you immediately to inform you of the problem, but all the same the situation should not have been allowed to arise in the first place.

It is up to the consumer to check with a company about availability before placing an order or sending money, as even when buying older equipment the company could have sold out since the advertisement was placed and be waiting for another shipment.

If an advertisement strikes you as particularly unfair or misleading (not criteria which I'd apply in this case), you should contact the Advertising Standards Authority (071-580 5555) and lodge a complaint.

This body has the power to crack down on advertisers and is always the best bet if you want the company involved to sit up and take notice.

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Direct to disk

After a long silence, SunRize have finally burst into song with the AD1012, the Amiga's first direct-to-disk recording system. Paul Austin lends an ear and the odd opinion

If you've been holding your breath for the release of the AD1012 and its 16-bit counterpart the AD1016 you'll either be a very peculiar shade of purple or perhaps even pushing up the daisies.

After almost a year at the "shipping soon" stage, the 12-bit variant has finally hit the streets.

Before the inevitable dive into the board and its attendant software, a brief overview is in order for those unfamiliar with direct-to-disk recording.

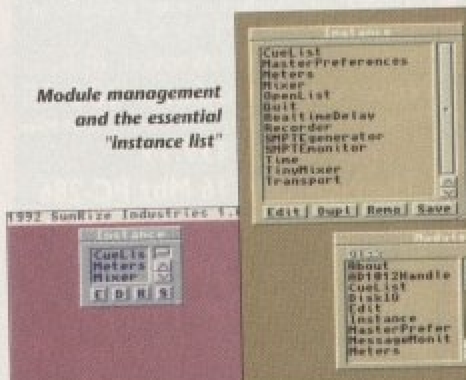
The primary aim of any DTD system is obviously to enhance sound quality, but this is only the tip of a rather complex iceberg which includes SMPTE time code and virtual memory – both essential elements in order to take full advantage of such technology.

Substantial

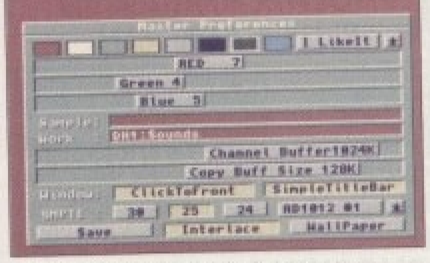
Although 12-bit sampling sounds uncomfortably close to the Amiga's 8-bit internal quality, there's a substantial difference between the two.

To provide an analogy, 8-bit sampling is akin to AM radio or alternatively the sound offered by 8-bit long distance digital phone calls, while 12-bit is much closer to FM radio or cassette tape. As you're probably aware, 16-bit is the ultimate format offering true CD quality.

A slightly more technical explanation concerns the signal to noise ratio (SNR) of the various formats. At best 8-bit sampling has a theoretical maximum sine wave of -48dBs, while 12-bit manages a much improved -72dBs, with 16-bit stretching the average sine wave to the limits of the human ear at 96dBs. The software which accompanies the board is called Studio16.



Module management and the essential "instance list"



Pick the destination disk of your choice, set the buffers and you're in business

As the name suggests, the software is a generic program which works with both the 12-bit and 16-bit boards.

Like most modern Amiga software, the program employs a modular design. As a result, the first requester to greet any would-be user is the "Instance list". This shows all the available resident modules.

Alongside this is the module library where you can select additional modules which can then be added to the "Instance list" – upgrading made easy.

Assuming you already have a sound source coming in and an output to some form of amplification, sampling is simply a matter of loading the meter window and either the transport or recorder windows – both of which can start the sampling process.

Prior to any sampling it's vital that you first specify the destination for the sample via the Master preferences. Once defined, you're ready to record.

If the monitor option is selected, the incoming signal will already be displayed on the analogue, digital and graphical displays within the meter windows handling the input and output levels.

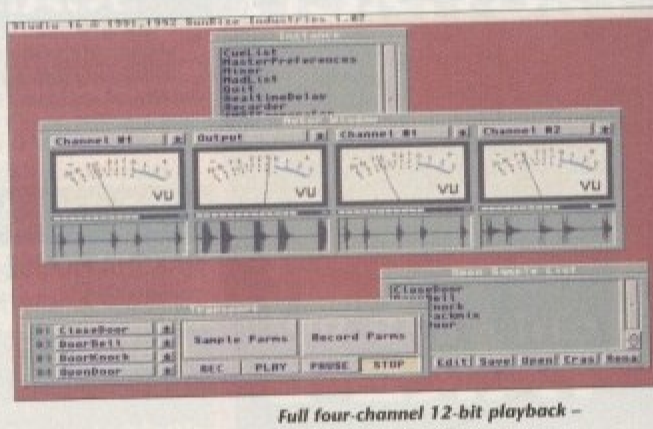
Incoming

From either the record, transport or mixers you can adjust the gain of the incoming signal to provide the perfect input and output level for the board.

Once satisfied with the various levels, filter settings, and of course sampling rate, you can hit record, instantly capturing the incoming signal.

This can then renamed if necessary and assigned to an appropriate channel for playback. From then on, adding more samples is simply a matter of repetition until all four channels are full.

It's at this stage – or perhaps even before



Full four-channel 12-bit playback – the ideal DTV sound source

– where the power of the aforementioned transport controls comes into its own. If you've ever used a four track or almost any analogue recording equipment, the phrase "ping-pong recording" will be a familiar one.

Basically, "ping-ponging" allows you to mix any existing samples with each other, or as part of a new sample. Once mastered, this technique means that an unlimited number of samples can be combined into a new super-sample, thus freeing the remaining channels for fresh recording.

Using this approach, huge sounds can be built up in stages. And of course because you're working with digital rather than analogue information, there's absolutely no sound degradation, no matter how many times the component samples are combined.

The only restriction is the fact that all dubbing is destructive, so if a remix is required the original component samples must be saved out separately and put in storage until you're absolutely happy with the mix.

Simple

As you can tell, recording and mixing is very simple but it's by no means the limit of the software's sample-handling features. Once a sample is recorded it can be highlighted within the "Openlist" and edited via its own sample editing window.

If you're a veteran of standard Amiga-based sampling software like Audition 4 or perhaps Audio Master 3, Studio16's editing window will be like home from home.

As you can probably see from the screenshot, the interface of the editing window is almost identical to both of the above.

The usual range marking, cut, copy, and paste are all on hand with a few more advanced features such a scale, flip and freehand editing. Unfortunately, although beautifully implemented and extremely easy to use, sample editing does suffer badly against existing 8-bit sampling software.

Unlike its 8-bit counterparts, there are no FX such as flange, chorus, echo or even pseudo-reverb, although strangely enough a whole host of "live effects" are available from a separate module.

Unfortunately these are completely independent from the rest of the software and cannot be applied to the samples themselves. This is a real pity as the effects pro-



…ided are impressive but unfortunately very limited as far as serious application is concerned.

Although editing and effects are limited, this is made up for by the program's excellent sample sequencing capabilities. Unlike its 8-bit counterparts, Studio16 has a much more professional and flexible approach to the problem.

Aside from the audio in and the audio out on the rear of the board, SMPTE timecode has been catered for which gives a good indication of what is sure to be the AD1012's main market.

Although a very respectable addition to any music system, its mono-only output does limit its appeal to the Midi fraternity, but mono only is much less of a problem to the videophiles out there. This is where the board's SMPTE compatibility comes into its own.

Cue list

Thanks to the SMPTE in on the rear of the board and the "Cuelist" within the software itself, an unlimited number of samples can be assigned to specific timecode positions.

As a result, any would-be user need only strip his or her tape with SMPTE (LTC) timecode and send the subsequent signal to the board.

Assuming the selected samples are assigned to the appropriate point, doors would then slam right on cue and floorboards wouldcreak in unison with the footsteps of the heavy breathing assailant.

What more could a would-be Hitchcock want – four channel of simultaneous output and frame-accurate synchronisation to boot. Not bad for a board and software combination costing £399 plus VAT. My only complaint is that the board and software combination can only read rather than write SMPTE timecode.

This is particularly annoying as the program generates its own internal timecode in order to sync the "Cuelist" and as a timecode source with which to communicate directly with Bars & Pipes professional.

Because of this rather annoying oversight, any would-be user must first invest in a SMPTE generator in order to initially strip tape prior to synchronisation.

A similar problem applies if you're planning to sync Midi information with the output of the board. Again an SMPTE generator is essential to strip the tape. In addition, a Midi-to-SMPTE converter is required to link the sequencer, recorder and AD1012 together.

AC

● *Tune in to next month's Music Almanac for a more detailed look at the SunRize and Bars & Pipes combination.*

The SunRize AD1012 is available from:
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Essential investments

Before you decimate your bank balance investing in any DTD system there's a whole host of basic prerequisites required by all such systems.

First, and most important, is a suitable means of mass data storage. Because such systems employ hard disks as a form of virtual memory, size and speed are of equal and vital importance.

The list below shows the average storage consumption of the AD1012 at various sample rates. It's worth bearing in mind that a sampling rate of 44,100 is the industry standard for CD, so anything in excess of that is in effect a waste of valuable space.

Sampling rate	Space for 1 minute	Space for 30 minutes
10,000	1.1Mb	34.2Mb
20,000	2.3Mb	68.7Mb
30.000	3.4Mb	102.9Mb
40,000	4.6Mb	137.4Mb
44,100	5.1Mb	151.5Mb
50,000	5.7Mb	171.6Mb

Although actual storage space is vital, speed is equally important. In short, if the chosen device is too slow, no matter how much space is available, the system simply won't record the incoming signal correctly.

A definable buffer has been added to help the transfer and seek situation but even when set at its maximum of 4Mb, drives with an average seek rate above 32ms still won't record correctly.

Even when the drive achieves speeds at or just below the 32ms maximum, it's still very unlikely that more than one channel of the four available could be played back simultaneously.

Popular removable hard disks such as the SyQuest with its 26ms average seek can still only manage between 2/3 tracks at the CD quality 44,1000 sampling rate.

To apply the full power of the four available tracks, the target disk must have a seek rate speed in the "teens" and benefit from a 32-bit buss direct to the disk.

As a result the A3000, with its 11ms 105Mb Quantum, is ideal, as indeed are the Combo series of 030s and soon-to-be-released 040 accelerator/hard disk combinations from GVP – again equipped with a suitably speedy and sizeable hard drive on-board.

Because of the speed and storage requirements, the perfect system would be a high speed working drive with perhaps an optical or RHD as a secondary storage device which your creations could be ported to and from as required.

A less immediate but equally important investment is some form of optimising software such as Quarterback Tools which can be used to de-fragment drives when necessary.

All DTD systems are very read/write intensive and as a result files soon become fragmented throughout the disk.

Because of this, the head on the disk is forced to travel much further in search of files. As a consequence, drives soon become noticeably slower, hence the need for occasional optimising.

The Bars & Pipes bonus

To be fair, the Midi syncing situation isn't quite as painful and expensive as it may first appear – if you're willing to invest in the system's musical associate, Bars & Pipes Professional.

This is the only sequencer with a direct connection to the SunRize hardware/software combination. As part of the Studio16 package, a selection of additional tools are provided which can be dropped directly into the Bars & Pipes Pro tools box and consequently into the pipeline within the sequencer.

Thanks to Studio16's internal SMPTE generator, Bars & Pipes Pro can sync directly with the "Cuelist". As a result, the output of the board and Bars & Pipes Pro's Midi output can be directly synced without the need for an external SMPTE signal.

As a result, it's possible to cue samples to specific Midi notes allowing a perfect combination of samples, music and video – assuming the sync is provided from the video source.

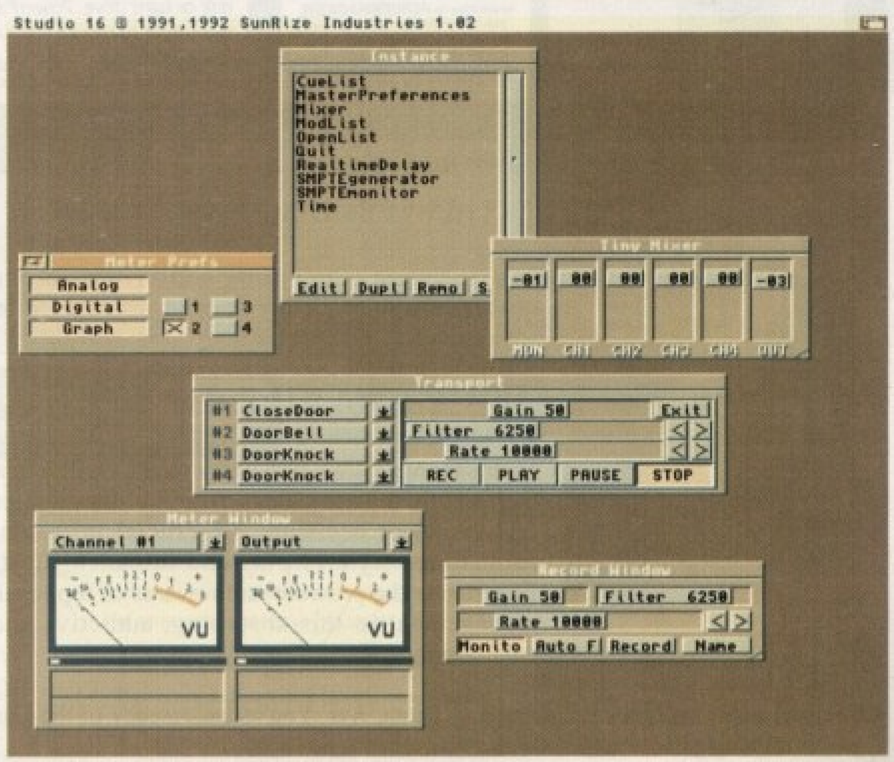
Yet another handy option is to sync an entire track or even tracks to the Midi output. Thus analogue specialities such as guitar solos, acoustic instruments and vocals can be added to the Midi output, providing a pure digital recording from start to finish.

Although both the software and the output of the board are impressive, there are a few niggly points which do tend to overshadow an otherwise excellent product.

First, the inability to write SMPTE timecode does means additional expense, as indeed does the lack of any direct Midi connection, which necessitates an investment in Bars & Pipes Professional as the only compatible connection to the world of Midi music.

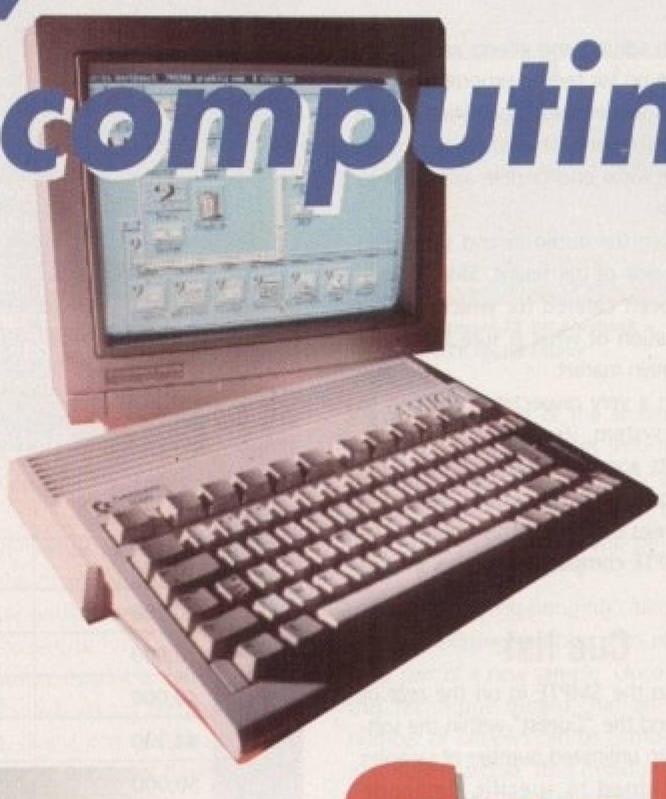
For the home recording enthusiast, the board is nevertheless an ideal budget introduction to DTD recording, its only possible rival being the new stereo 14-bit board from GVP which is due for release around September.

Video is where the board really scores highly and when combined with SMPTE-compatible DTV equipment it becomes the ultimate format for synchronised special effects and Midi-generated music.



Just a small selection of the impressive array of control windows on offer from Studio 16

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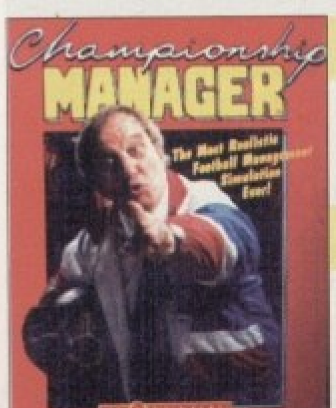
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ABSOLUTE beginners

PART 7

On the subject of drawers, Stevie Kennedy expresses a preference

One of the most messed about, yet least utilised, drawers on any Workbench disk is the Prefs drawer.

As it offers a multitude of twiddling and random clicking opportunities to the new user, Prefs is often one of the first stops for the experimenting beginner. The problem is that few users make the effort to systematically configure preferences.

This month, we'll take a look at some of the more powerful features of the Prefs drawer, paying particular attention to Workbench 2.04 (or 2.05 for A600 owners).

Most beginners have this version and its preferences options are so much more diverse than in Workbench 1.3. If there is enough demand, we'll return to Workbench 1.3 prefs some time soon.

As usual, start by booting from the Workbench disk, but this time we'll ignore Shell completely (hurrah!) and go straight to the Prefs drawer.

When this opens, the WB2 user should be confronted by a choice of no less than 12 individual programs rather than the single prefs program on WB1.3 disks.

Standard tools

The Input program is the first we'll look at, so double click on its icon to run it. The window which appears contains settings for the way the mouse and keyboard react when used, and as these are the only standard tools for communicating with the Amiga, tweaking their settings can be a very productive exercise.

First in line is the mouse speed bar. This controls the speed at which the mouse pointer moves across the screen, and can be set from 1 (fastest) to 4 (slowest). Changes are instantaneous, so adjust the setting until you're happy with it.

Now look at the toggle box just below the slider bar. Clicking on this box will enable mouse acceleration, making the pointer move at maximum speed for the least desk movement.

For disabled users, turning mouse acceleration off and keeping mouse speed down to the minimum will ensure the positive mouse action which is easy to control.

Again, disabled users or those with stiff or arthritic fingers may find it impossible sometimes to double click fast enough for the second click to be registered. The third Input pref setting can be used to extend the time limit within which a second click has to be made.

Fast mouse users are advised to keep the time down to a second or less, but for less nimble fingers the delay can be set to four seconds, as can key repeat, found just below this slider.

Probably the second most useful prefs unit is the Printer program, controlling many of the parameters which determine how printed output will look on paper.

The default settings are good enough for most tasks, but with a little thought some pretty varied results can be achieved.

Several printing utilities, including MMPP from the *Amiga Computing* CoverDisk, utilise Workbench prefs settings when printing their documents. For example, if the AIBB4 documents from this month's disk were printed using the standard prefs settings, they would cover many pages of cut sheet paper.

To speed printing and save paper, especially if continuous stationary is available ("fanfold" paper), the user should change print pitch to 15-fine, spacing to eight lines per inch, print quality to draft, and paper type to fanfold.

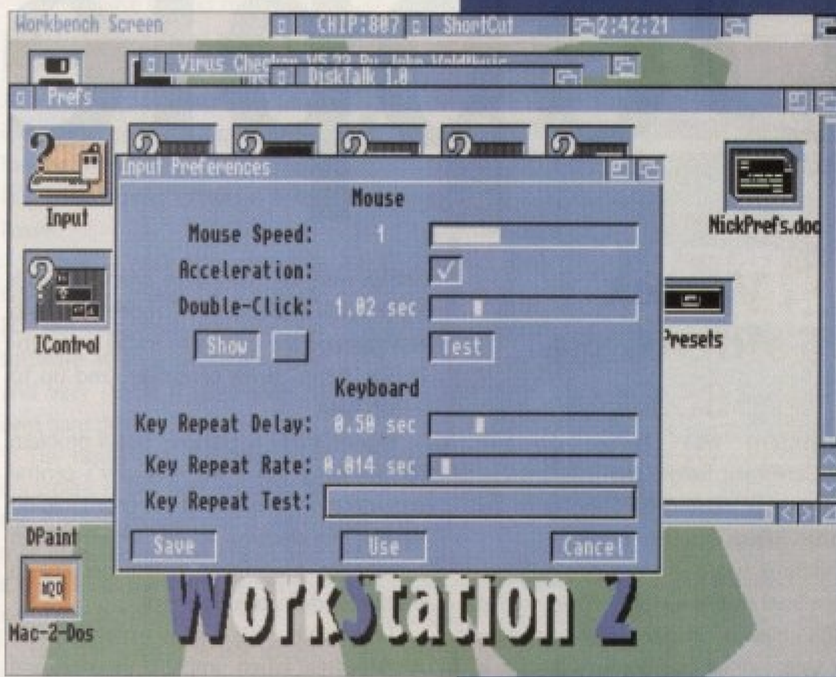
The resulting printout will be harder to read, but will cover far fewer pages and will print a great deal quicker.

The Printer program is also where users select the dreaded printer driver, which has to be done properly if printers are to work as they should.

Adequate

For the vast majority of nine and 24-pin printers, the EpsonX and EpsonQ drivers will suffice, but users of less common printers, such as the Canon BJ10, will have to change driver.

To change printer driver, simply copy the required driver to the DEVS:Printers drawer, then open the Printer prefs program. The list of available drivers can be found in the top left corner of the window, and all the user need do to permanently change driver is click on the driver name then select Save. Copying printer drivers to the correct drawer is the only part of the exercise which can cause problems, but many programs now do it automatically.



Setting your own keyboard responses can make a big difference

For those experiencing problems, a standard command line to copy a printer driver might look like:

```
COPY DF1:DEVS/PRINTERS/EPSONQ TO
DEVS:PRINTERS
```

though the location of the required driver could be almost anywhere.

As supplied, the WB2 Extras disk has a fairly good selection of printer drivers to choose from, so the Drivers directory on this disk should be the first port of call for users with printer problems. If the driver is not there, such as the Canon BJ10 driver, it may be available in the public domain.

Next up on the Prefs tour is the Font program. New to WB2 is the facility to choose almost any font for display options including icon names and window titles. Though initially appearing a little frivolous, an experimentative user will quickly find out how useful this can be.

The Amiga's standard display font is called Topaz 8, and it's one of the ugliest fonts in the history of fontdom. Topaz 8 was chosen not for its aesthetic value but its relative clarity on an 8 x 8 pixel character display. With WB2, the user can dispense with Topaz and select something a little more pleasing to the eye.

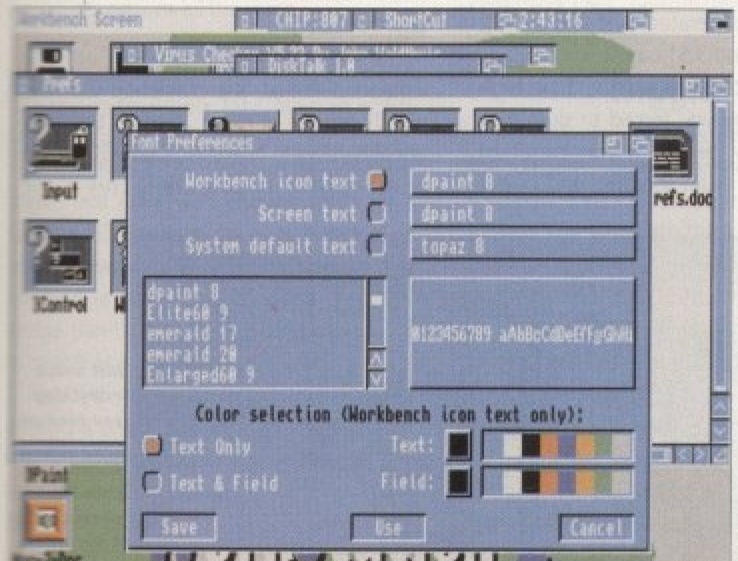
This includes the outline fonts, Times and Triumvirate, which can be scaled to any size and are very clear and easy to read.

My own personal choice for a non-interlaced Workbench screen is the DPaint 8 font, which is chunkier and more businesslike than Topaz, or Times 12 for Interlace screens.

Times can be found on the WB2 Fonts disk, and the DPaint font will be on the DPaint disk distributed with just about every Amiga. To copy the DPaint font to a WB2 boot disk, type:

```
MAKEDIR FONTS:DPAINT
COPY DPAINT:FONTS/DPAINT.FONT TO FONTS
COPY DPAINT:FONTS/DPAINT/8 to FONTS:DPAINT
```

The user should then type FIXFONTS to update the fonts directory, and go back to Prefs to select the font for use.



get those horrible Topaz fonts changed right now!

The Amiga is an ideal tool for many tasks, and excels in areas where the PC and Mac have yet to demonstrate an aptitude. There are, however, applications for which the Amiga is not best suited, and it is in search of these that some owners have forced a crisis of identity by turning to emulator cards for greater compatibility and flexibility.

Emulators offer two primary advantages. First, it is possible to cram two entirely different computers into the same case and, sometimes, run them both at once.

Secondly, the emulator card will normally make use of the resources in which the owner has already invested money, such as monitor, hard drive and memory.

Any new emulator, then, must be judged on three criteria (see box). The two latest emulators on the Amiga scene have been a long time coming, and both have been flagged by their manufacturers as powerful, cheap alternatives.

- Is it powerful enough to run software as if it were a real Mac/PC?
- Does it offer a neat and compact solution to the problem?
- Is it economically viable? Is it cheaper than buying a complete machine?

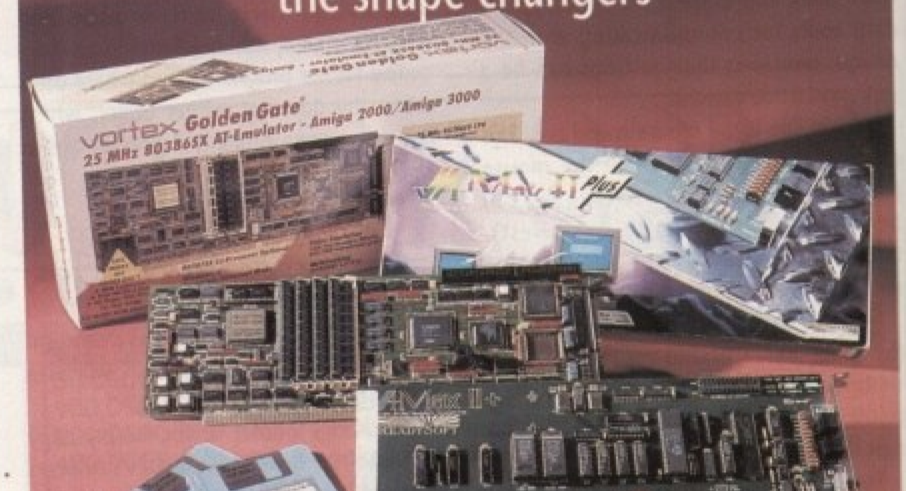
ReadySoft's AMAX II+ and the Vortex GoldenGate 386SX offer the latest in shape-changer technology. Both take emulation at least a rung or two up the power ladder, bringing Windows 3.1 to the PC wannabees, and Quark Xpress (albeit in mono only) to the Mac admirers.

They also offer something which no previous emulator has managed – it is quite possible when using either card to forget that the machine is actually an Amiga, a trick which must surely be the stiffest test of any gender-bending peripheral.

This is not to say that both cards come up smelling entirely of roses. They don't, and a few stinkweeds remain which any potential purchaser should be aware of before shelling out for either emulator, so bear in mind our three criteria for success as we take a closer look.

Dopplegangers

The latest emulators offer real alternative computing. Stevie Kennedy investigates the shape changers



Vortex GoldenGate 386SX

Development was started on the GoldenGate card before the price war of the last year or so forced PC prices to fall faster than British industrial output.

So vicious has been the competition between Intel and AMD for the chip market that 386 chips are in danger of appearing in this year's Christmas crackers, and it is now possible to pick up a 386SX machine with VGA colour monitor, 40Mb hard drive, 2Mb RAM, and Windows 3.1 for about £800 including VAT.

This sort of financial lunacy poses a bit of a problem for the Vortex card when our third question is put to it. Is it an economically viable solution?

GoldenGate retails for £499 including VAT. For this the user can expect a 25MHz 386SX with IDE hard drive interface, 512k RAM (640k available in PC mode in a 1Mb Amiga), and the option to install a co-processor, floppy drive controller, and up to 16Mb RAM.

Expandability is certainly not a problem for this card, but if the end user's central consideration is mainly of the green folding variety, the decision to opt for emulation rather than a complete system becomes a matter for delicate judgement.

Technically, the card is excellent, and works a treat when simply plugged in and used in one of the Vortex supported video modes.

In mono VGA, even on a standard monitor, the display is clear and crisp enough for Windows use, and the four-colour EGA is perfectly adequate for DOS-based applications.

Video refresh rates in these modes are pretty good, which is what you'd expect coming from an Amiga chip set rather than a cheap VGA card, but after a while the owner who's paid hundreds to use PC software will want to see more colour, and this is where the Amiga's unique talents come into play.

To fully implement the card as a Windows runner, I scrounged a Trident 1Mb SVGA card and 1.44Mb floppy from ZCL, plugged the video card into a spare PC slot, and the floppy into the GoldenGate, then scrounged a 105Mb hard drive from our incredibly defensive systems manager, who muttered something about getting it back in one piece after the test (you'll be lucky, matey!). With this kit installed, the A2000 began to look very full, especially as it also contained an accelerator card and a hard drive in the second 3.5" bay.

Housing shortages meant the 3.5in high density PC floppy was forced to slum it in the 5.25in bay, where it was perched upside down to avoid shorting, and I can't tell you how I rigged up the hard drive for fear of incurring the wrath of the little fellow's legal guardian.

Suffice to say that with an already expanded Amiga, the emulating user can rapidly run out of room. Without the additional hardware, however, GoldenGate will never realise its potential. This is the

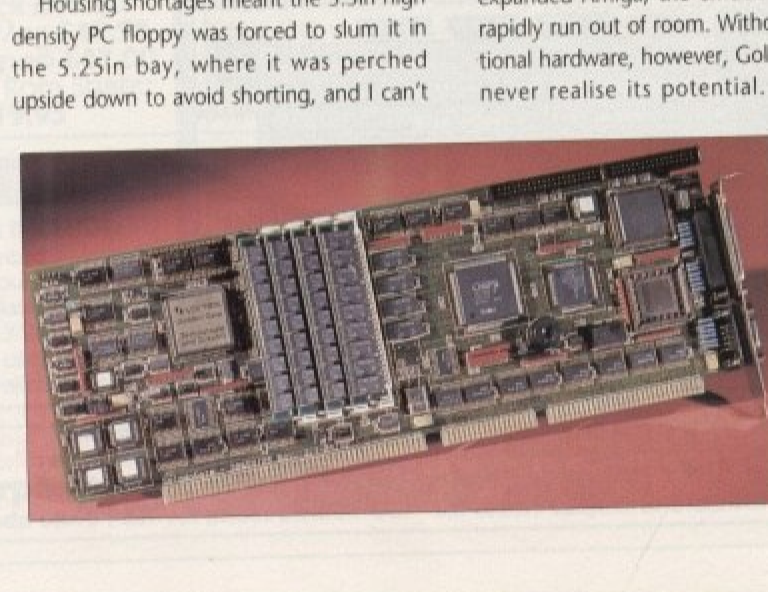
Why emulate?

Touchy question, that one. To answer it, one must first swallow one's pride and admit that the Amiga is way behind in some software areas.

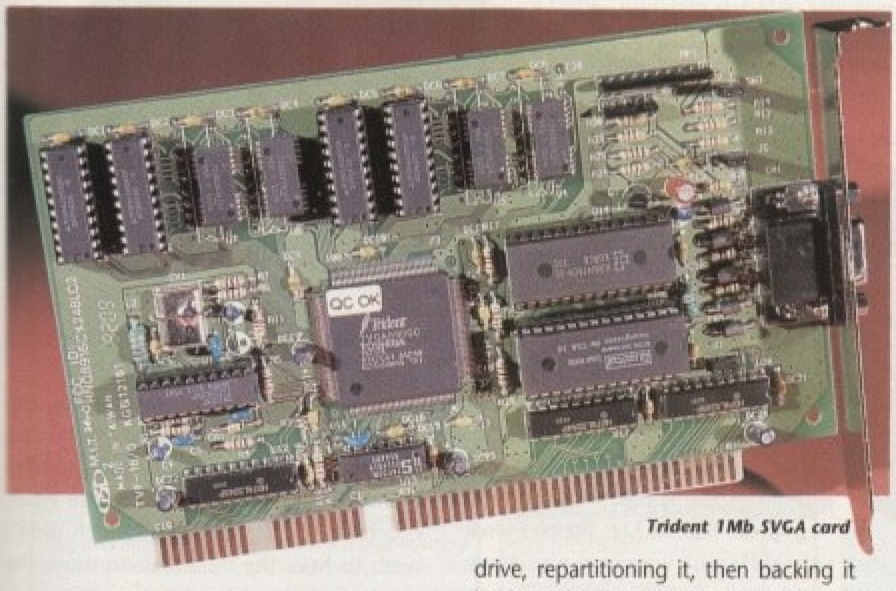
For example, possibly the only piece of business software available for the Amiga which matches the best on the PC is Superbase Professional 4.

DTP packages such as ProPage and PageStream, though superb in their own right, are limited to mostly mono DTP because of the Amiga's obsolete graphics standard (soon to be rectified by the AA chip set, I hasten to add), and in the related area of structured art and design, the Amiga cannot compete with Adobe Illustrator 3.1 (Apple Macintosh) or Corel Draw 3.0 (PC).

Still the king of DTV, ray tracing, and multimedia, the Amiga has nonetheless a great deal of catching up to do in some respects, and for those who wish to take a short-cut, emulators are the only answer.



Just about everything you need on one card. GoldenGate certainly doesn't suffer from expansion problems


Trident 1Mb SVGA card

crunchy bit in the middle of the Vortex soft centre.

My own recommendations for the minimum viable Windows setup would be a 40Mb hard drive, VGA card, VGA monitor, 4Mb RAM, and at least one 1.44Mb floppy.

The card will access Amiga floppy drives as if they were 720k PC drives, but the speed of the floppies is much reduced, and as most PC software these days is supplied on 1.44Mb high density disks, a PC floppy is essential.

If bought with 4Mb RAM (about £140 from most PC suppliers) and a floppy controller chip (£39.95), the board price comes to around £680 which, as it excludes hard drive and VGA costs, is fairly serious money.

Anyone looking for a new machine will therefore buy a standalone unit rather than the Vortex. However, a PC emulator is not designed to compete with cheap PC clones. The user who needs both Amiga and PC software to get the best of both worlds in one box will still find the GoldenGate an attractive proposition.

Purrs

Once installed and accompanied by the floppy drive and VGA setup, GoldenGate purrs along nicely, and the only problem I encountered during setup was with the Vortex hard drive "file" method. The only problem, perhaps, but a right royal pain in the nether regions all the same.

Two methods of using Amiga hard drives are allowed by the Vortex software. The first is to simply take over an entire Amiga partition for PC use.

This is fine if the user has an 80Mb or larger hard drive with enough room for a sizeable PC partition, or even better if an entire drive can be set aside. The other method is to create a huge file on an Amiga partition and force the GoldenGate to treat it as a hard drive.

The first method has the advantage of offering a proper hard drive to the system, but has the disadvantage of requiring a hard drive reformat and repartition if one isn't ready to hand.

The second method saves the user the hassle involved in backing down a hard drive, repartitioning it, then backing it back up, but has one crucial drawback – it doesn't work.

Fair enough, the GoldenGate setup program will create this false hard drive as long as there's enough space on the Amiga hard drive to hold the size of file that's needed, and MS-DOS will format it as if it's really drive C:, but when running any kind of software off the "drive", the most pleasant thing one can say about it is that it provides endless opportunities for a cup of tea. Or perhaps a walking holiday in the Himalayas.

Unstable

I tried for a week solid to force Windows to run from a 10Mb "file" hard drive, but failed, failed, and failed again. Adding 4000 buffers (taking up 2Mb of the Amiga's RAM) speeded things up a bit, but the file method seemed just too unstable for the sort of disk-intensive work involved with Windows.

When the 105Mb hard drive was used instead, a second problem developed. My old ICD Advantage 2000 hard drive controller seemed not to want to work with the board. Changing machines to an A2000 equipped with an IVS Trumpcard met with more success, but the Setup software still seemed confused as to which partition was called what.

I ended up using a partition which the Amiga thought of as DH3, but which the GoldenGate variously recognised as DH0, DH1, and DH3, presumably depending on what mood it was in.

Niggle

My only remaining niggle is, again, with the software. Microsoft serial mouse control is emulated via the Amiga mouse, but when I set up Windows with the MS mouse driver on a separate VGA screen, I had serious problems with the mouse capture screen.

Mouse capture, when activated, takes all mouse clicks and applies them only to the PC screen. However, despite the fact that my copy of Windows was properly set up for the MS mouse, and the GoldenGate software likewise, I was forced to turn mouse capture off before the mouse would work in Windows.

This brought on a ridiculous situation whereby the mouse clicks were being registered by the Amiga and PC at the same time, and when the mouse pointer strayed outside the Amiga window, deselecting that window, the mouse instantly froze on the PC screen.

A quick look back at the Amiga screen to reposition the mouse did the trick, but it was all too easy on a Workbench 2.04 machine to click on the mouse capture window's close gadget, which irreversibly locked out the mouse from the PC.

This happened half-way through the design of a beautiful 3D icon which would, I'm sure, have been a masterpiece had I not had to re-boot.

Vortex have a good record with software updates, and regularly re-jigged the software for the 286 ATonce card, so I'm sure the problem will be sorted out quickly, but for the moment this simple little bug makes using Windows a real hassle.

This is a real pity, because GoldenGate makes for a capable PC, fast enough to run Windows software at an acceptable speed and very stable if used with its own hard drive.

The card's own IDE hard drive controller is the best solution to the storage problem, and will enable the user to make use the cheap and compact IDE drives of the kind used in the A600 and PC portables.

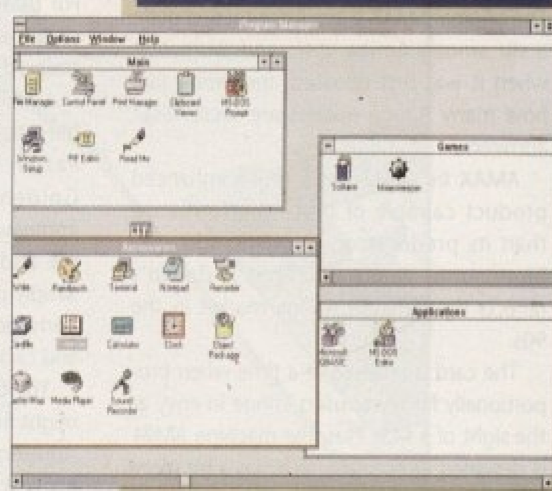
Take the card's decent speed, its RAM sockets, the floppy controller, hard drive controller, and co-processor socket, and you have a neat PC on a card. When the software bugs are ironed out, and I'm sure they will be given Vortex's record with the ATonce 286, GoldenGate will be a hard act to follow.

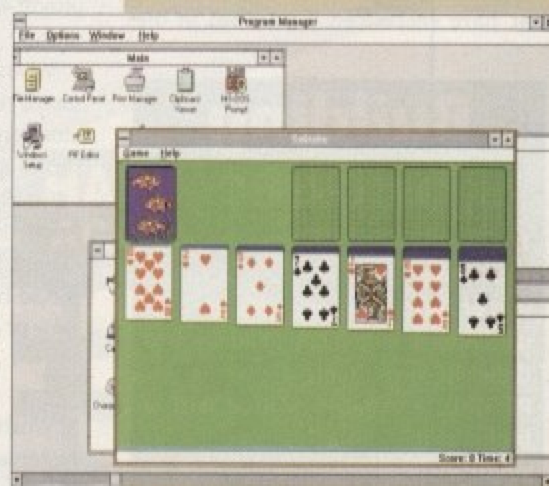
Speed 7/10
Implementation: 8/10
Software: 5/10
Overall: 7/10

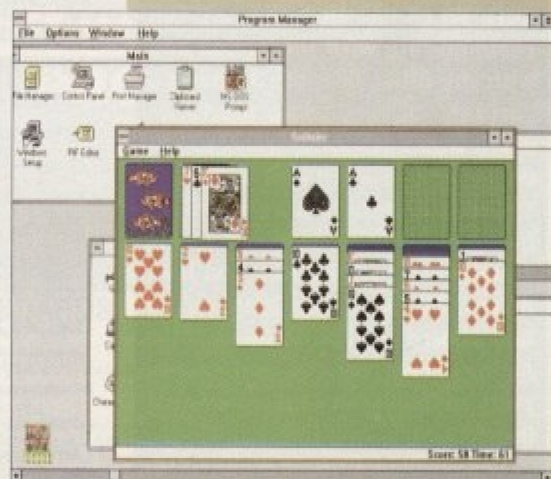
Product Information

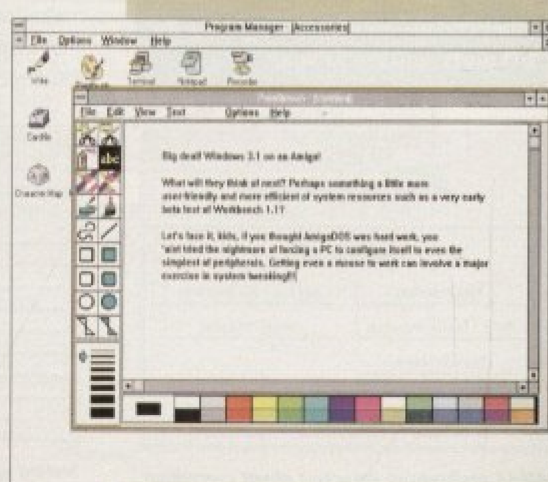
GoldenGate is a product of Vortex Computersystemes GmbH
Supplier: Silica Systems (081-309 1111)
Price: £499 basic board, £39.95 for floppy drive controller chip
Trident 1Mb SVGA card and TEAC 1.44Mb floppy supplied by ZCL Ltd
Phone 0543 251275 for local dealer information

Graphics taken from GoldenGate running with a Trident SVGA card


At last! Windows 3.1! Now what do I do?


Hmm... a quick game of solitaire


Three hours later... what else can windows do?


Paintbrush – the bundled paint program

AMAX II+

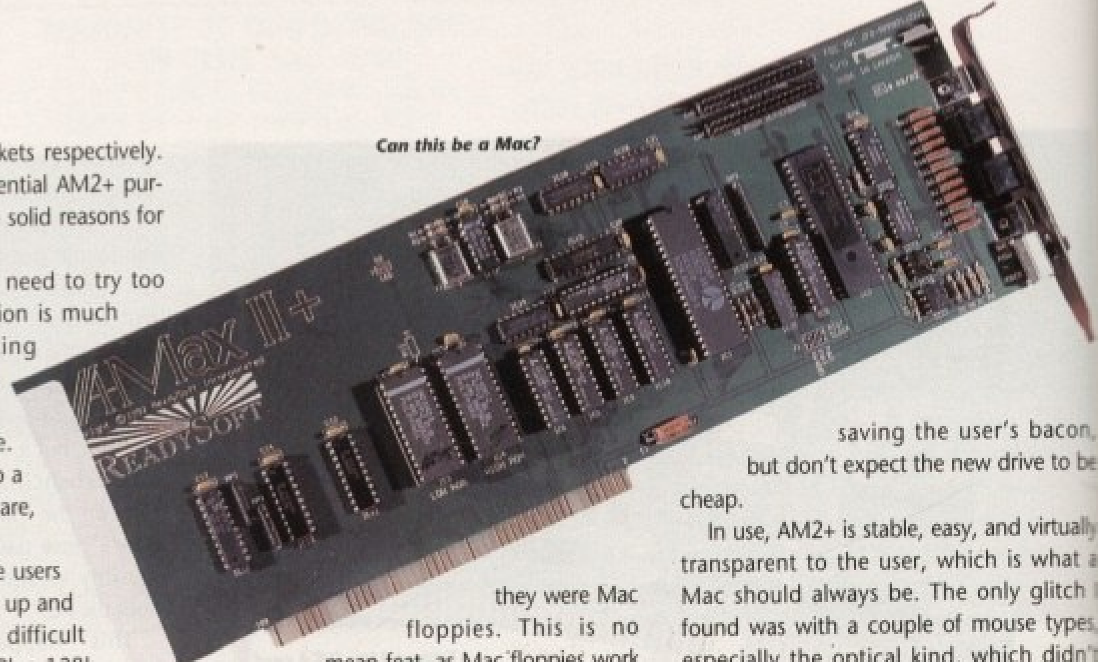
The original AMAX II emulator caused quite a stir among Amiga users and journalists when it was first released, indicating just how many Amiga owners are secret Mac admirers.

AMAX II+ (AM2+) is a much enhanced product capable of better performance than its predecessor, so it should really blow some heads off. That it doesn't reflects the different Amiga market in the 90s.

The card is released at a time when proportionally far fewer users cringe in envy at the sight of a Mac Plus, the machine AM2+ is designed to emulate, so it has a bit more convincing to do before it can attract rave write ups.

In addition, both the Amiga and the Mac have ensconced themselves in the video and DTP niche markets respectively. For these reasons, the potential AM2+ purchaser would have to have solid reasons for taking the emulation road.

Luckily, AM2+ doesn't need to try too hard to impress. Installation is much easier than when fitting GoldenGate, aided immeasurably by the simple and elegant software. Simply plug the board into a Zorro slot, install the software, and click on an icon.



Can this be a Mac?

The only problem some users might find before AM2+ is up and running is the relatively difficult process of finding Mac Plus 128k ROMs. Apple aren't particularly fond of these emulator chappies, and do their utmost to stop the supply of ROMs to end users.

When the AM2+ box is open, purchasers should find a list compiled by the UK distributors, Entertainment International, of a few known ROM suppliers.

I borrowed mine from HCS in Swindon before the board arrived, but the punter can expect to pay about £90, a cost which should be born in mind when assessing the value of AM2+.

Building bridges

The Amiga 1500/2000 range hold within their capacious cases a collection of Zorro expansion slots for standard Amiga peripherals. In addition to these, however, there are also a few PC slots which, when used with a bridgeboard, can accept peripherals which are normally PC-only.

For those unfamiliar with the term, a bridgeboard is a card which fits on one of the Amiga's dual purpose PC slots. When installed, the card can communicate with the Amiga and with the other PC slots, forming a "bridge" between two machines which would otherwise refuse to spit on the other even if it were on fire.

GoldenGate works as a bridgeboard, and as a result can access Amiga RAM, floppy drives, and hard drives. The original Commodore bridgeboard was able to use only the Amiga's serial, parallel, and joystick ports, so the Vortex card represents a leap forward in emulator technology.

Once GoldenGate is plugged in, the Amiga's PC slots can be used to hold VGA cards, PC RAM expansions, or even hard drive controllers, making the PC side of the case a completely independent entity, sharing only the I/O ports with the Amiga.

Options

When the setup screen appears, several preferences options are available to the user, including video and hard drive selections.

It is possible to run Mac emulation in either standard or interlaced resolutions, though interlaced is easily the best choice for potential Quark Xpress users.

Hard drive selection is a little trickier. The user must type the name of the AMAX driver which corresponds to his or her hard card into a string gadget, then choose a partition for use with the Mac.

I suspect that it's supposed to work the other way round, but the software never seemed able to get its head around my partitions until I'd fed it the driver information.

Anyway, AM2+ has the major advantage over its predecessor that it will use any Amiga hard drive partition and format it as a Mac partition. It doesn't support a "file" method like that used by GoldenGate, but this is a blessing rather than a curse as the latter method works slower than an asthmatic Travant.

A neat trick employed by the card is that it will recognise and use Amiga floppies as if they were Mac floppies. This is no mean feat, as Mac floppies work in a very different way and also have motorised eject. To get over this, when removing a floppy from the drive under AM2+ emulation, the user must click on a small drive icon at the top of the Desktop screen which tells the system a disk is being removed.

The method works, but I found I regularly forgot to click before ejecting, thus confusing the system and prompting a host of annoying "Please insert volume Untitled in drive" messages.

Possibly the biggest advantage of going for Mac rather than PC emulation is that the Mac uses the same family of processors as the Amiga, which means the card itself depends on the Amiga's CPU.

Multitasking is therefore out of the question, but if the card is used with an accelerated Amiga the Mac side will make full advantage of the faster CPU.

System 7

Being a little slow, I wondered for about half an hour why the Mac refused to budge when used with a 68040-based Amiga, until the systems manager told me only System 7 (the latest version of the Mac's operating system) fully supports the fastest processors. This brings me to a single flaw in the AM2+ armour.

System 7, like so much new software, is supplied on high density disks. For the moment, there's plenty of stuff still available on single density, but the rapid conversion of the Mac world to high density is happening now, which puts AM2+ under pressure.

The Commodore 1.76Mb high density drive is "soon to be released", and when it does AM2+ will be ready and waiting.

The software supports the Commodore drive as if it were a Mac HD floppy, thus saving the user's bacon, but don't expect the new drive to be cheap.

In use, AM2+ is stable, easy, and virtually transparent to the user, which is what a Mac should always be. The only glitch I found was with a couple of mouse types, especially the optical kind, which didn't seem to have the resolution to move the pointer fast enough.

Other than this, as long as the AM2+ user is content with mono graphics, the card is an excellent piece of equipment which won't cause any problems on the technical side.

Unfortunately, emulators have to be judged by our three golden rules, and AM2+ fails slightly on the first question.

It is powerful enough to run Mac software, especially if used with an accelerator card, but one must remember that when colour Macs appeared, the Plus sank without a trace and Quark Xpress found a permanent home on the LC and IIci machines.

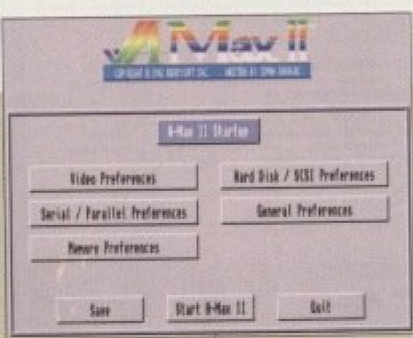
Colour DTP is what the Mac is all about, and even though Quark is still arguably the best DTP package available on micros, it isn't all that much better than PageStream when used in mono.

You pays your money and takes your choice, though at the moment AM2+ is the only choice for Mac fans. With no competition until Emplant comes along, it is fortunate that it's a nice piece of kit.

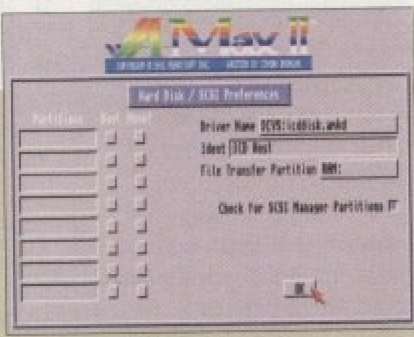
Speed: 8/10
Implementation: 8/10
Software: 8/10
Overall: 8/10

Product information

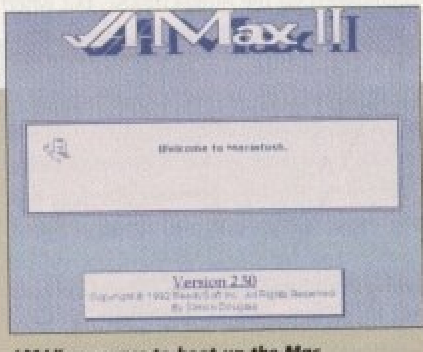
AMAX II+ is a product of ReadySoft Inc
Supplier: Entertainment International
(0268 541212)
Price: £324.99



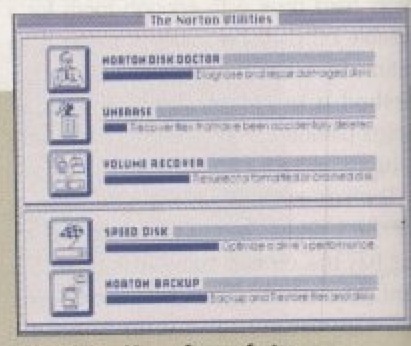
AMAX preferencws cover just about everything



Setting up hard drives is quite easy



AMAX manages to boot up the Mac while running its own trademark



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Save your saes – we can't reply personally

Saddam false alarm

I always check every single disk I get with two virus killers, Virus Checker 6.05, and Nuke 1.3b. Virus Checker gave the OK to your August 1992 CoverDisk on all aspects, but Nuke claims that it is contaminated with Saddam.

I have visions of the field day your competitor' are going to have when they announce the fact, a bit like page ten of your January issue, where the *Amiga User International* Saddam virus was reported.

Nuke 1.3b states that Saddam is present but, and this is a big but, it still states Saddam is present even after it has repaired the disk. Now I know Nuke works, as I have used it to remove viruses before, and when repaired they were clear.

This has led to on to a couple of long sessions trying to find out why, but I'm still none the wiser. Perhaps you know? Perhaps this is a new strain, or maybe Nuke is mistaken?

Chris Cannon, Romford

The answer to your apparent problem is that Nuke 1.3b is completely mistaken – there is no trace of the Saddam virus on our August CoverDisk.

To check this, I took a CoverDisk fresh from the front cover of the magazine and scanned it with the latest version of Virus Checker. Nothing.

I then examined the Disk-Validator file where Saddam will lurk once a disk is infected. Nothing. The file was byte for byte identical to a "clean" disk validator I keep in a virus killer directory for this specific purpose.

Next I compared the CoverDisk's Disk-Validator to a known Saddam Disk-Validator. Nothing. They were as different as chalk and cheese, with the Saddam file's characteristic appearance contrasting clearly with what is a standard AmigaDOS file.

To test Nuke 1.3, I copied the clean AmigaDOS Disk-Validator to the CoverDisk then checked the disk with Nuke. Hey presto, Nuke decided that the totally innocent file was in fact guilty as charged, showing its inability to properly check the files it is supposed to make its speciality.

Why Nuke decided to pick on what is an entirely virus-free CoverDisk I can't imagine. Either the program is just plain old garbage, or it has a problem with the low level structure of our CoverDisks, which are duplicated in a non-AmigaDOS commercial duplicator environment.

The latter is highly unlikely, so my conclusion is that you should avoid depending on this erratic checker for your Saddam security. Virus Checker is a perfectly good defence against the beast.

Sampler plus Midi

I want to get into both sampling and Midi, and already own OctaMED Professional v3, Sequencer One and Soundstudio. I also have a Casio MT-640 keyboard which is Midi-compatible, but I gather I need a Midi interface and a sampler.

I would like to make a noise such as a cough and play it back at different pitches using the keyboard. I would also like to use the rhythms on my keyboard with my voice using the sampler. Would this mean I would need a Midi interface and sampler together?

Can I get a combined Midi interface and sampler for about £40 and can you recommend a good one? Do I have all the software I need, and will my printer in the parallel port cause a problem?

Also, is there any way to connect my electric guitar to my computer? Will my 1Mb Amiga be enough for these purposes, and is the MT-640 up to the job? I am an 11-year-old schoolgirl, so I want to spend as little as possible.

Moushimi Saha, Wimbledon

The AMAS sampler is probably the best bet, as it combines a sampler and a Midi interface in one unit. However, it is rather expensive at £79 (Silica Systems 081-309 1111).

A cheaper combination might be the Technosound sampler from Trilogic (0274 691115) at £37.99 and a Trilogic Midi Interface 2 at £26.99. Either way, you will find it difficult to keep to a £40 budget.

As far as connecting your guitar to the Amiga is concerned, this will only be possible if the guitar is Midi-compatible. If it is not, the best you'll be able to manage is to sample the guitar and play it back on your MT-640.

There are devices available in the professional music market to convert guitar pick-up signals to Midi data, but these are prohibitively expensive (about £300).

The MT-640 should be capable of most Midi tasks and will serve you well as you learn the ropes. The Amiga should also be good enough for most sampling tasks, though don't expect to record massive high frequency samples with only 1Mb of RAM.

RAM crash

During a bout of programming with Devpac 2 last week, my Amiga 500 suddenly gurued and crashed! Weird, I thought, because it had never crashed so unexpectedly before. To my horror, the machine refused to reboot again without crashing!

I removed the external floppy and hard drive to see if that cured the problem, but to no avail. It was only when I removed the half megabyte trapdoor expansion that the problem cleared.

Off I went to the local computer store to buy a new RAM expansion. I plugged it in, switched back on, and... crash! Same result again. I modified the circuit board and fitted a fatter Agnus chip about six months ago to give my Amiga 1Mb chip RAM. This coupled with the fast RAM in the hard drive has been working fine until now.

I can use my Amiga with the half meg chip RAM, but the extra does come in useful, as does the clock. Please can you help?

Andy Sells, Doncaster

You don't say exactly what modifications you made to your motherboard, so it's

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Style printing

I have recently bought an A600HD, but I'm more used to the Apple Mac and have an Apple StyleWriter printer.

My query is whether there is any way for the Amiga to drive the StyleWriter which is, I understand, based on the Canon BJ10 and ought in theory to be compatible.

I imagine the connecting link would be the problem.

Richard Laing, Colchester

How right you are! The StyleWriter uses an RS422 interface on a 9-pin mini-DIN rather than the 25-pin RS232 you'll find at the back of the Amiga.

Making up a cable could be a problem, but if you can lay your hands on the pin-out diagram for the StyleWriter and refer to your A600 manual for the Amiga RS232 pin-outs, the rest is just solder and sweat.

The printer driver might cause problems, but as you say the StyleWriter is based on the Canon printer, so the shareware BJ10 driver presently doing the rounds on the PD scene should work at least in part.

I wouldn't put money on the success of the undertaking, but for the outlay involved in making a cable, it's worth a try.

Which card?

I have a revision 6.2 A1500 with ECS and Kickstart 2, 8Mb RAM, and a DataFlyer hard card with 100Mb NEC D3855 hard drive. Can you advise me on the best accelerator for my setup?

I'm not satisfied with the standard 7MHz 68000, and would like an accelerator to speed up DPaint IV, Wordworth, Vista, and games designed for a quicker CPU, such as Links.

Looking through the magazine, there seems to be a vast range to choose from, though a 14MHz 68000 is definitely out of the question, and I really want the best around. A 28MHz board (or faster) that's easy to fit and easy to set up with a 68000 fallback mode would be ideal.

I read somewhere that for an accelerator to work, there has to be a super fast hard drive fitted. My DataFlyer is a workhorse rather than a racehorse, so do you think this will be a problem?

Also, I have read that accelerators need 32-bit RAM, floating point units, and maths co-processors. Is this correct for the uses I have in mind, and maybe a few I haven't got round to yet?

P Ebbans, Walsall

As you say you want the best, and as you already have Kickstart 2.04 installed, I would recommend a 68040 accelerator. Under Kickstart 2.04, data cache copy-back mode works very well and your system's speed will be unrivalled.

You seem, however, to be a little confused about accelerators in general. Floating point unit (FPU) is just another way of saying maths co-processor, and the 68040 chip has one built in. Most 68030 cards are supplied with 68882 FPU chips on-board, and if you intend to run number-crunching applications such as Vista this facility is essential.

The DataFlyer interface, though not blisteringly fast, should be fine with most accelerators, and as you have a SCSI hard drive you could even decide to drop the DataFlyer and run the hard drive from a GVP combo card, which will have a SCSI interface built-in.

This will mean settling for a 68030 (the A1500/2000 68040 combo isn't yet on sale), but the speed of a SCSI drive when used in this manner is something to see.

My advice would be to go for the Progressive Peripherals 68040 card (phone Marcam on 0604 790466) or the Fusion Forty board (phone Hydra Systems on 0203 471111). Both run at 28MHz and both are easy to fit.

The price will be £1,000 or more, but for this you get unrivalled speed and 4Mb of 32-bit RAM.

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difficult to know what might be wrong. If you have used a 1.5Mb RAM card with Gary adaptor and connection to JP2, the problem could be one of shorting between two of the JP2 pads.

It is more likely to be a problem with the Gary adaptor or the actual trace cuts made in the motherboard, however, as you say you don't experience the problem when the trap door is not in use.

If you have followed one of the daft DIY motherboard conversions presently masquerading as hardware projects on bulletin boards and the odd PD disk, you have only yourself to blame.

In this case, any modifications made to the motherboard should be reversed and a more recognised upgrade method, such as the 1.5Mb cards with Gary adaptor, should be used.

The Agnus chip can't be to blame, nor is the problem likely to be found with Gary, though the latter is possible. If you have doubts about either chip, try to find an accommodating friend who'll allow you to test their chips in your machine.

Alternatively, have the Amiga looked at by a professional repair company.

Scraggy screen

I have an A500 fitted with Kickstart 2.04, 8327A fatter Agnus, and 1Mb chip RAM. I also have an external disk drive and a Protar hard drive (with its own PSU) containing another 1Mb RAM.

My two problems concern screen display. I find that graphics on-screen waver a bit which is made worse by games using overscan.

Secondly, the screen sometimes becomes corrupt, especially when scrolling text on-screen or slowly moving chunks of graphics as in the Wordworth screen saver.

The corruption can normally be rectified with a screen refresh, but this is not always possible. I have a feeling that these two problems are connected and I suspect the problem could be the Amiga's PSU or the Agnus chip. What do you suggest I do now?

Philip Chung, Cheltenham

To test for a dodgy PSU, remove all the peripherals presently attached to your Amiga and load Wordworth. If the screen saver works fine and text scrolling likewise, the problem is probably not connected to the Agnus chip.

If the problems persist even with the hard drive and so on removed, try replacing the Denise chip first. This is cheaper than the Agnus, and as Denise is largely responsible for display and switching screen modes, it is a prime suspect.

Quite possibly, the problem is totally unrelated to your motherboard chips, as damage to either Agnus or Denise would tend to cause gurus and boot-up problems. Your chip RAM could be a bit fritzed, leading to the corruption of data held in text and screen buffers, but this is very difficult to check.

The best you can do is run SysInfo or some other memory testing utility to check the integrity of your system's memory. This could show up any problems caused by damaged chips.

Don't blame your PSU. As the hard drive has its own power supply, the original Amiga unit is being asked to run nothing more than 1Mb RAM and an external floppy, which is well within its capacity.

In any case, the PSU will not interfere with your screen display, and low power more often than not causes a total crash rather than slight graphics problems.

Wrong Kickstart

My daughters have an Amiga 500 with 512k memory upgrade, and recently they were given the three Workbench disks for the Amiga 500 Plus.

My questions are – will they be able to use the disks safely in their Amiga? If not, why not? Can the Amiga be upgraded so that they can use the disks, and is it worth the cost?

Mrs S O'Hara, Burnley

Your daughters' A500 sounds like a standard Kickstart 1.3 machine, which means the Workbench 2.04 disks will not boot as the most recent version of Kickstart (version 2.04) is required.

To upgrade, you can either purchase the complete Commodore upgrade kit, or simply buy a Kickstart 2.04 chip from our advertisers. The complete kit costs £80 and upwards, depending on the retailer, but it includes the ROM chip, excellent AmigaDOS manuals and a full set of official Workbench 2.04 disks.

The chip alone would be fine, and costs only £40, but you'll have no manuals, and fitting it will still mean opening the Amiga and swapping chips.

If you're serious about the Amiga and would like your daughters to learn more about the operating system, I'd go for the official kit. In any case, if your Workbench 2.04 disks are copies, you shouldn't have them in the first place.

MultiDOS mess

Could you please help regarding the MultiDOS program, as I cannot get PC programs to work.

A friend loaned me a PC PD disk, and I installed MultiDOS on my Workbench disk as per the instructions in your magazine, then mounted it. When I put in the PC disk, the volume name of the disk appeared with its icon, and by double clicking on it I brought up a plain empty window.

I then used Show/All Files from the Window menu and a lot of tool icons appeared with their file names. By using the More utility I was able to read the text files, but I couldn't get the programs to run. The Shell command Execute returned an error when I tried it.

R Soilleux, Erith

You seem to have misunderstood the purpose of the MultiDOS program. As the CoverDisk label states, MultiDOS will enable your Amiga to read, write, and format PC disks, but this doesn't mean it will enable you to run actual PC programs – you need a PC emulator for that.

As you are running Workbench 2.04, the program will have no problems with most disk operations such as DIR, LIST, and so on, and you say that More will read the PC Ascii files. However, users of Workbench 1.3 have been contacting us in their droves over the bug concerning DIR under Kickstart 1.3.

Unfortunately, when MultiDOS is running on a Workbench 1.3 machine, it crashes whenever a DIR command is issued to the PC disk. LIST works, as do many other AmigaDOS disk commands, but without DIR many users have found the program less than completely satisfactory.

For those users, MessyDOS is still the best choice, despite the program's horrendous Format command, so look out for the latest version of MessyDOS on a forthcoming CoverDisk.

Snapshot special

Paul Austin examines Amiga Colour Digitiser II, Datel's latest adventure into the ever-expanding field of real-time colour digitising

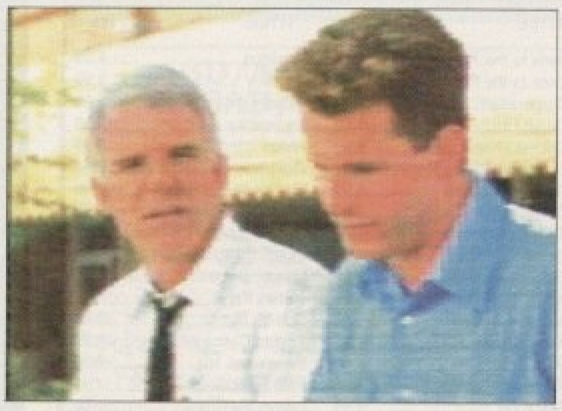
As little as six months ago, real-time colour digitising was an expensive business with the only really dedicated contenders being the comparatively expensive JCL ColorPic and SuperPic range.

However, during the intervening period the options and quality have expanded enormously. The undoubted leader in the field has to be Vlab from Amiga Centre Scotland.

Unfortunately Vlab is of no use to the hordes of A500 users out there, as it requires an A1500 or above for installation. Consequently, there's still a sizeable hole in the budget market which Datel have spotted and are hoping to exploit...



Whadya mean we look fuzzy and pixelised?



I'm tellin' ya, this picture's not up to Vlab spec!

Through-port

The hardware itself is a combination of a colour splitter and the digitiser, linked via a through-port and cabling setup. The new duet is then slipped into the side slot of the machine with the option to install a hard disk on the side of your new accessory.

Unfortunately our resident HD8+ didn't actually fit in the slot provided. As a result, be sure to check compatibility before making the investment.

The digitising element of the partnership is a fairly bland vanilla box with two knobs on the rear for the adjustment of brightness and contrast.

The splitter on the other hand has a colourful array of adjusters for saturation plus individual RGB levels.

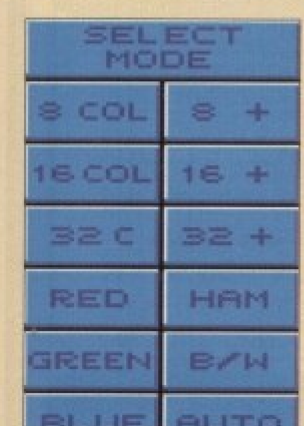
The only limiting feature of the comprehensive image adjustment options is the software's insistence on only monitoring on a quarter-screen 32-colour image.

As a result, accurate adjustment, whether it be through the digitiser or splitter, can be a tricky business. The only real method of ensuring quality results is good old trial and error.

Once the hardware is happily entrenched in the side of the machine, the next task is to add the essential video source via the RCA/phono connects available on the rear of digitiser. As you'd expect either composite VCR or camcorder signals are accepted.

The majority of program options emanate from a control strip on the right of the main screen interface. From here all the program's basic options are on hand allowing either single frame capture or a continuous full screen updates.

As mentioned above, there's also an option to activate a quarter-screen real-time monitor. When the appropriate moment arrives, grabbing can be activated, instantly replacing the monitor image with the new grab.



The control panel is friendly if unimaginative

Variety of Formats

All images are imported as 15-bit raw data which can then be viewed and subsequently saved in its raw form or converted into a variety of colour formats including 8, 8+, 16, 16+ B/W, Ham, Red, Green, or Blue.

The conversion only applies to the on-screen image. As a result, the various colour options can be interchanged without affecting the original data.

The formats offering a "+" merely imply that dithering is employed to enhance image quality. It's a real shame that this particular feature hasn't been applied to the Ham format.

Aside from the variety of available formats the unit also boasts "double buffering". Basically this means one image is held within the digitiser's own 8 x 128k static RAM capable of storing a 256 x 256 15-bit image, while the second is stored within the machine's own fast memory.

In order to apply the second buffer, the stored data within the digitiser must be transferred by the Auto button, although once transferred the option to view in the available primary colours is lost.

The Single capture automatically snapshots the current incoming signal while the Repeat option activates the continuous update mode which automatically replaces the current image at a rate of five frames per second.

As you'd expect, there's the usual array of IFF options including 15 and 24-bit. With images being imported as 15-bit data, though, at best I can only assume the 24-bit option has been added to allow compatibility with other packages.

Processing effects

In addition a basic selection of processing effects are on hand which allow image inversion, positive to negative, reversal, vertical and horizontal compression, screen clears plus an option to add on-screen time and date information to the captured image.

Although the real-time grabbing and attendant software are as fast and friendly as any on the market, the unit suffers badly on the versatility front.

The main problem is the maximum image size of 320 x 320. In today's market, less than video resolution simply isn't good enough for many applications and the omission of interlace is a real problem that detracts badly from the otherwise impressive image quality.

For those interested in PD-style digitised animation and standard DPaint-quality art it may well find a market at a price point roughly a third that of other full colour real-time systems. Nevertheless in comparison to Vlab – a system at a similar price point – it's definitely found a little lacking.

Animation is where the system could score. As a result, watch out for next month's update column as *AC* looks at Amiga Movie Maker.

This is an additional software package that allows real-time sequential grabbing of up to 500 frames at a maximum of 15 FPS. AC

Amiga Colour Digitiser 2 is a product of Datel Electronics
Address: Govan Road, Fenton Industrial Estate, Fenton, Stoke-on-Trent ST4 2RS

Tel:	0782 744707
Fax:	0782 744292
Price:	£199

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NEW Expert 4D Junior	39.99	49.99
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Real 3D Beginners	79.99	110.00
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From a music magazine to a cookery database, Phil Morse assesses this month's varied and frequently plain bizarre selection of PD

PUBLIC SECTOR

Order v1.7

17 Bit, disk 2050

From South Hams Software

This is a rather simple but nevertheless useful database. Indeed, something this simple may well be a godsend for many tasks.

Completely keyboard controlled, it allows up to seven fields (name, address, phone number and so on, for example) which the user can define the length of. It has simple search functions, and files can obviously be saved to and loaded from disk.

If all you intend to do is keep a record of your LP collection, or your mates, or your business contacts, doesn't it make sense to use an offering like this rather than pay for the many features you'll never use with a full priced package?

Me thinks so. Although this program is not the final world in user-friendliness, if you have used a database before you'll have little trouble getting to grips with it, and it comes firmly recommended.

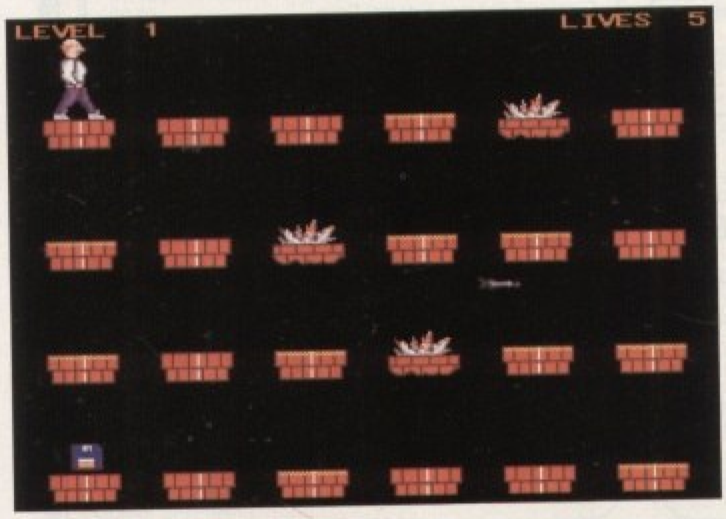
Baldy

17 Bit, disk 2051

Coded by P Jenkinson

As far as PD games go, this one is fairly typical – which is not to say it is bad. There are an assortment of platforms, around which you must jump your little fella by moving the joystick left or right, and pressing Fire to move up or down.

While avoiding bushes and spectacularly unscary nasties, you must collect floppy disks to progress. As I say, pretty typical stuff.



Collect floppy disks in Baldy, a simple PD platformer

Frank Sidebottom Slideshow

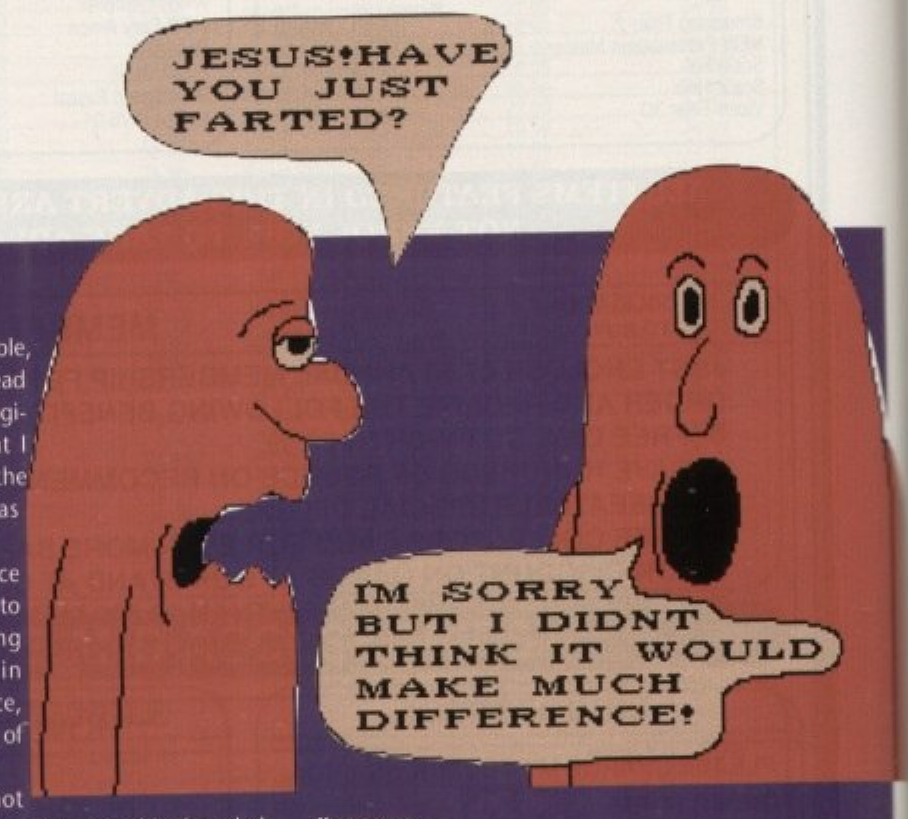
17 Bit, disk 2046

From Zarch Productions

Oh dear, oh dear. Out of all the disks which came in this particular bundle, I was looking forward to this one the most. Frank's self-effacing humour, nasal and Northern as it comes, is right up my (cobbled) street.

So what do we get? Incredibly badly digitised pictures which look like they've been grabbed from a 99p, 14th generation video recording and then stretched until they are barely recognisable.

It's just as well a description of what's going on appears below each one. A consciously naff demo for a consciously naff comedian? Am I missing a joke here? I doubt it.

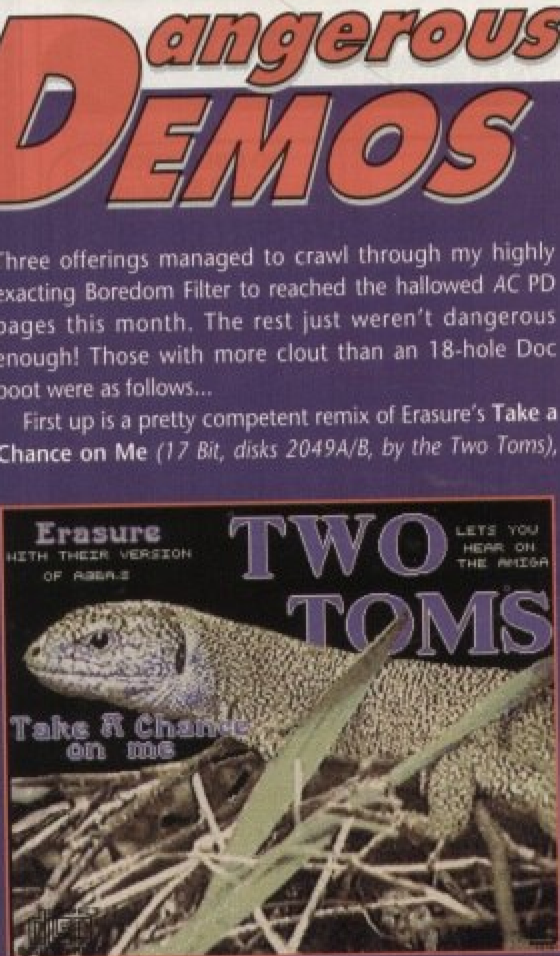


Yyeeesssss.....

Dangerous DEMOS

Three offerings managed to crawl through my highly exacting Boredom Filter to reached the hallowed *AC PD* pages this month. The rest just weren't dangerous enough! Those with more clout than an 18-hole Doc boot were as follows...

First up is a pretty competent remix of Erasure's **Take a Chance on Me** *(17 Bit, disks 2049A/B, by the Two Toms)*, from their highly camp Abba covers EP.



An iguana "digs" the latest Erasure remix...

The sound quality is passable, the remix interesting – it's spread across two disks – and the digitised close-up photo of what I believe to be an iguana on the opening screen as strange as Andy and Vince themselves.

Oh, and I had a friend once who gave the boys a lift back to their hotel room after seeing them play at G-Mex in Manchester. Enough evidence, sir, to make this Music Demo of the Month.

Although my friend cannot claim to have give God a lift home, the white-bearded one does crop up in the next offering, this time coming from a group called **Complex** *(17 Bit, disk 2064)*.

This is a demo based around a gospel record which is, in itself, somewhat strange, coupled as it is with the lyrics on the screen, and a bouncy ball, Spitting Image-style, to help you read them.

Look at those words: "The Lord will hit like an atom bomb,/ When he comes, when he comes." Deeply moving stuff, I'm sure you'll agree, and almost as puzzling as the highly ridiculous **Poo Folk** *(17 Bit, disk 2045, by the Wanderers)*. The Poo Folk consists of several cartoon pictures of human excrement personified, providing the perfect vehicle for all those dirty ditties that did the rounds in the school playground (or at least, did when I was a whippersnapper).

Some are mildly amusing, some are highly unamusing, but one is absolutely hilarious – two, ahem, logs are chatting, and one says... no, order it yourself and find out.

Protracker v2.2

17 Bit, disk 2042

Containing a full, working version of the above music sequencer/player, along with the latest version of Virus Checker (v6.6), a PC emulator (for which you will require your own MS-DOS disks) and the latest archiver/de-archiver, LhA (v1.32), this disk is a useful little collection of utilities.

It is pretty user-friendly, with an opening menu allowing you to choose which program you'd like to run, and it even has background music, which I feel is a bit over-the-top for a utilities disk, but each to his/her own!

Custom Icons

17 Bit, disk 2113

Coded by David Ferguson

This is a very useful little collection of icons, designed and coded by the author, and presented for you to use in your own programs.

They are presented in various folders depending upon the type of icon on offer, from clock, disk and wordprocessor variants to a large file of miscellaneous offerings, ranging from the obviously useful to the slightly strange.

Although many of these icons display a scant difference from their neighbours, there is still enough variety to make the purchase of this disk worthwhile for anyone looking to give their own programming efforts an edge over the competition.

Space Rescue

17 Bit, disk 2111

Some games have it, and some don't, and this one certainly does. A wonderful, horizontally-scrolling Defender-type thing, Space Rescue shines due to its chunky, pleasing cartoon-ish graphics.

What it lacks in speed it makes up for in looks – stars which scroll by at different speeds, little landing pads to refuel on, clever and imaginative obstacles – all add a cuteness factor which more than makes up for the lack of 4,000 aliens on the screen at the same time.

What's more, this is highly addictive, due to the programmer thinking a little about the obstacles and puzzles which are placed in your way – when you mess up, you just have to have another go, because you've sure as hell seen how to do it, and you just did it slightly wrong last time... and so on.

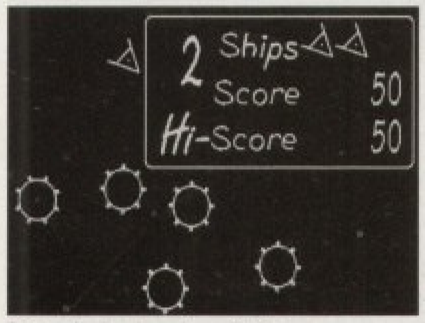
In fact, you can even forgive the fact that your craft looks suspiciously like a helicopter without its rotor blades, crossed with a dead – ie horizontal – owl.

It looks great, it sounds great, and it keeps you coming back for more. What else could a space hero ask for? A stormer of a game, and no mistake.

Calling all PD libraries

Got anything worth reviewing? 'Course you 'ave, or you wouldn't be in business. So stop pussy-footing around like a picture of apathy and learn positivism!

Be a winner! Stuff your latest into a Jiffy bag, including a hard copy detailing what is on which disks, and send the lot the me, Phil Morse, at Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP. You have only your chains to lose.



Seriously weird gaming with Omega

Omega Race

17 Bit, disk 2119

Weirdos of the Month corner, this is bizarre with a capital S, and twice as weird again. Done completely in black and white, and utilising the simplest graphics necessary, this minimalist game is like nothing else I've ever seen,

Take Asteroids as a starting point, add a score-card which sits in the middle of the screen and around which you must manoeuvre your craft to shoot the, ahem, cog wheels, throw in some irrelevantly-shaped geometrical oddities and you're half way there.

Now remove all traces of logic and realism, season with a health shake of irrelevance, and you're getting close to what this off-the-wall oddity is like.

Needless to say, I loved it, and positively glowed with delight when I read that it took a year to program. Either the coders were extremely lazy (not necessarily a bad thing), or they were painstakingly particular about the most wonderful things:

"Er, do you think this cog should turn into a vector triangle when hit?"

"I dunno, maybe – a three-sided spinning boomerang?"

"Brilliant!"

If you smile at clumps of grass, you'll revel in this, and if you don't, I guarantee you'll find yourself wondering where the hell the programmers are at more than you wonder about the game itself. On a different tack from normality entirely!

OctaMED Pro v4

Amiganuts

Coded by Teigo Kimunen and Ray Burt-Frost

Released this month, the latest version of this legendary and universally used Amiga music sequencer/player boasts many improvements, including a tidied up user interface, and the correction of most bugs.

It is probably the best program of its kind out there, certainly the most widely used, and is a must for anyone writing music for the Amiga – even if the Amiganuts demo tune supplied with it is more than decidedly dodgy.

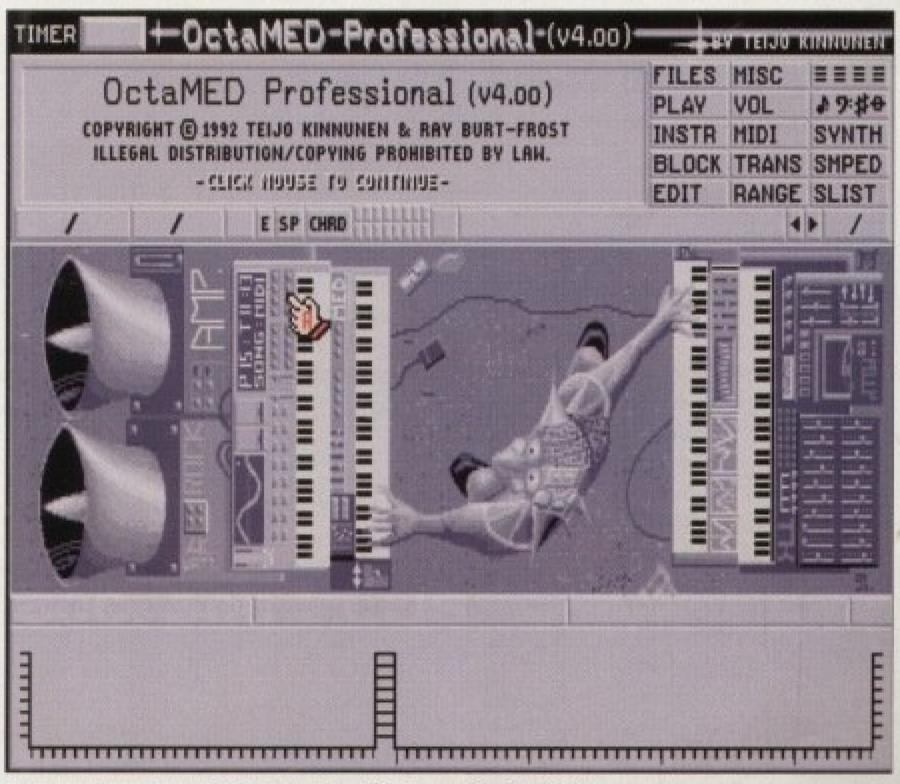
➤



A stormer of a game, Space Rescue excels due to some clever ideas from the programmer, which make it highly addictive



The CD-ROM set of icons from the Custom Icons disk. Although many look similar, there is a wide variety overall



The new, improved professional version of the legendary OctaMED



The rather splendid AM/FM musicians' magazine

AM/FM Magazine & samples

17 Bit, disk AMFM 6

Amiga musicians have it hard, don't you think? Blessed with a multitasking dream of a machine when compared to the likes of the Mac, ST and PC, they've somehow been left behind the lot when it comes to widespread support

So it's nice to see a disk magazine put together by real music enthusiasts especially for Amiga owners. Each well presented and written issue of AM/FM comes complete with a disk of samples, which range from woodwind to horror to extensive sampling from top synths, such as the Korg Wavestation.

Catering for the Midi user and the Amiga internal sound freak, AM/FM is a welcome addition to the sparsely populated Amiga music support sector. With quality support like this, the argument for buying an Amiga to make yer' first number one with grows by the day.

Bon Appetit

17 Bit, disk 2012

Coded by Boris Shor

This is a recipe database, which already contains details of 20 scrumptious snacks and delicious dinners. You can add and delete recipes, of course, build up separate databases should you wish to, and the program gives you a respectable amount of control over what you do with your data once it's all tapped in.

Although you can't tell it the equivalent of "I've got two onions, some paprika, three slices of bread and some baked beans" and get it to search out all possible dishes for your tea (it'd take a miracle of the magnitude of the Feeding of the 5,000 to do something with this lot, the current pathetic contents of my food cupboard), it will let you search the data by recipe name and number, key ingredients or key words.

For instance, "family" will bring up "blueberry pancakes", which seems a little strange until you read the recipe which informs you that blueberry pancakes are a good food for weekends, as "all the family can help to make them".

Call me sentimental, but I found this program kind of loveable, and should you be in the market for a cookery database, I'm sure you will too.

Where to get'em

Anglia PD, 115 Ranelagh Road, Felixtowe IP11 7HV
Amiganuts, 169 Dale Valley Road, Southampton SO1 6QX
17 Bit, First Floor Offices, 2/8 Market Street, Wakefield WF1 1DH

Classics Collection

Anglia PD, 3 disks

It's retro-mania in the public domain at the moment. After last month's collection of arcade classics from 17 Bit, Anglia PD have weighed in with a worthy compilation collectively known at the Classics.

As with most PD collections, idiosyncrasies abound, but there are some gems in there...

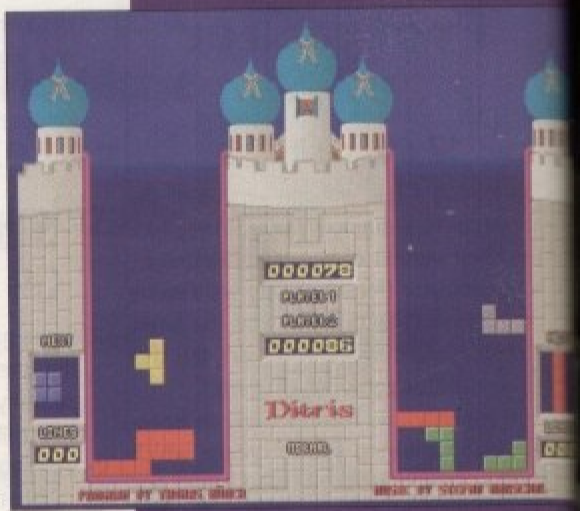
Disk 1 weighs in with **Amigoids**, **Twintris** and **Defenda**. Guessed what they are yet, kids? Yup, it's those perennial hardies Asteroids, Tetris and, er, Defender, cunningly repackaged for the PD-hungry masses sick of the £30 per graphics-and-no-gameplay sector.

Twintris is a two-player version of the Russian teaser, but it's too slow to be challenging. Amigoids, on the other hand, is rather excellent – a one or two player version of Asteroids which I personally think is much better than the oft-praised E-Type.

In Amigoids, the rocks break up when you hit them, there are a myriad of player options available, and it's generally truer to the original, while avoiding the pencil-line graphics of the arcade version.

Defenda is the version which appeared on the *AC* CoverDisk a few months back, and what a storming, ultra-fast version it is too.

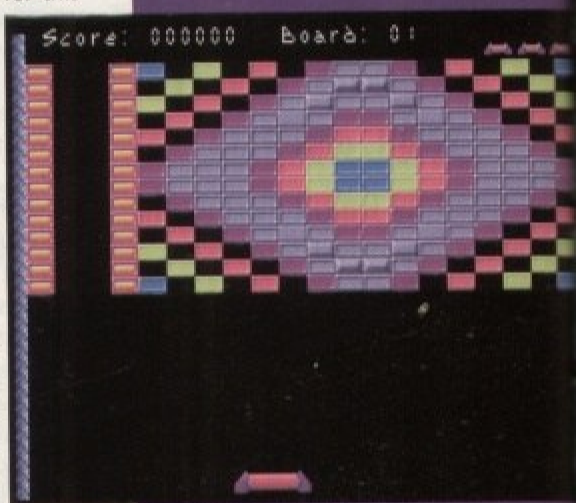
For all those of you stupid or unlucky enough to miss it back in December, buy this disk, if only for this game. With sound, graphics and gameplay this good, it's unmissable.



Allowing two players to play at once, Twintris is nevertheless too easy

Disk 2 contains **Scramble**, **Galaxians** and **Wobbly** (or Mr Wobbly Legs vs the Space Aliens, to give him his full title). Scramble featured on the 17 Bit disk reviewed last month.

Galaxians is a pretty typical copy of the original, although the sound of smashing glass when you blow up an alien is rather disconcerting. As for the opening screen... buy it and believe it. Sad is the word.

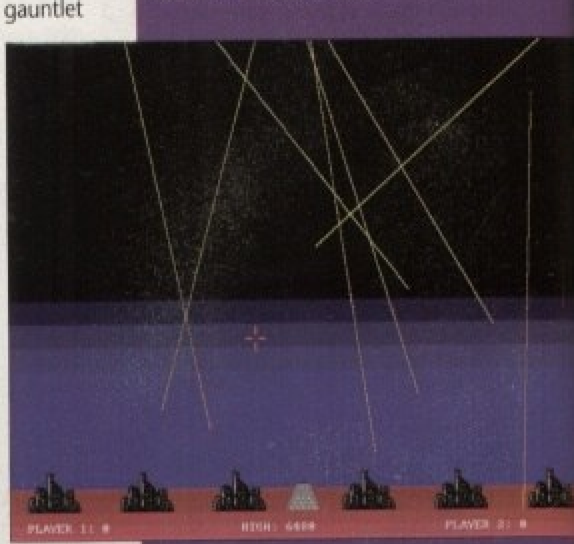


Megaball – Breakout with more frills than a wedding dress

Mr Wobbly Legs is a Space Invaders hybrid, where you have to run the gauntlet of alien bullets to collect five stars in order to become a "first class pilot". A bit like working for MacDonalds, when you come to think about it.

Once fully qualified, you can zap the nasty little greenies to kingdom come. It's quite a laugh, if only for the animation of Mr Wobbly Legs' legs.

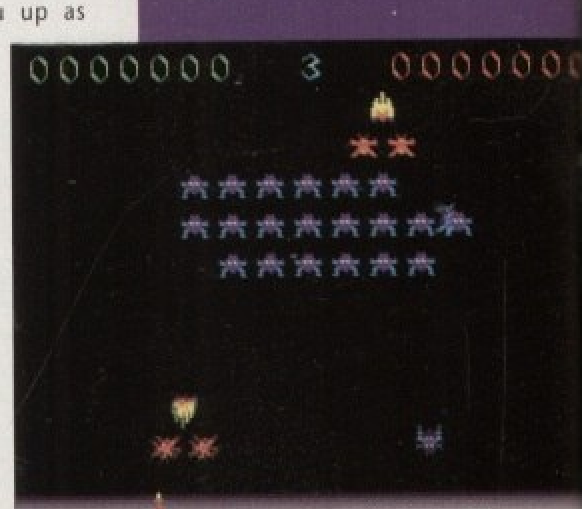
Finally, disk 3 contains **Missile Command** and **Megaball**. Megaball is Breakout – you know, a wall of bricks and a bat and ball – but it's got so many options (including an editor if you register) that it stands out from the crowd very nicely indeed.



The lives of all those innocent citizens are in your hands... oh dear

Missile Command sets you up as defender of several cities, as missiles come in at random from above. Hell, you know what I'm talking about – this really is to computer games what the Citroën 2CV is to cars – simple and very, very old but still absolutely brill (he said, admiring his from the office window).

Overall, these three disks offer excellent value for money, and should parallax scrolling, multiple 14-ways animated sprites and telepathic user interfaces be stressing you out, why not order the lot and settle back for some good old-fashioned blasting?



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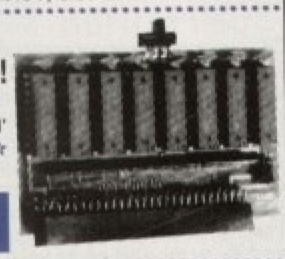
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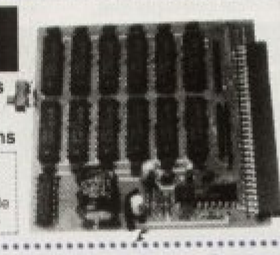


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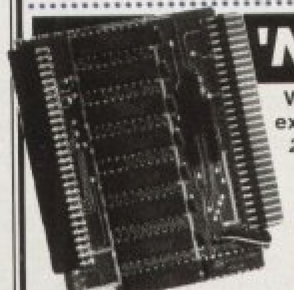
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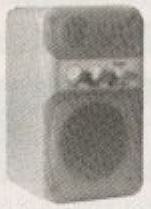


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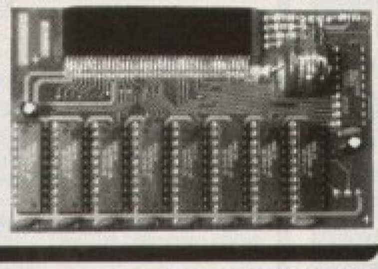
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ISSUE THIRTEEN • OCTOBER 1992

GAMER

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Plus...

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ONword

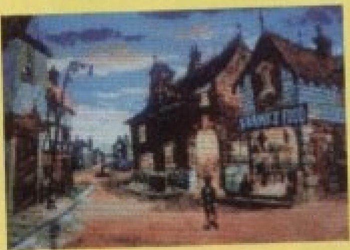
Ooh! What is that rancid stench?

Enchanted, I'm sure...

Monkey Island 2 was a bit good. But how long can it retain its throne? Not for long if those scamps at Core Design have their wicked way. For Curse of Enchantia is an icon-driven adventure not a million miles from the secretive primate game.

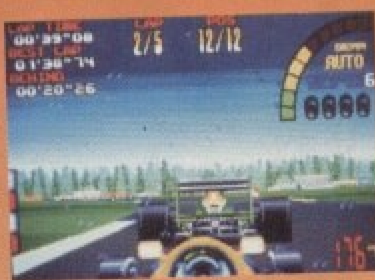
The story tells of how a coven of greedy witches were betrayed by a particularly nasty witch, and tricked into opening a portal between Enchantia and their own dimension. From Enchantia she kidnaps an Earth child to complete her rejuvenation spell.

You take the role of the little nipper and must help him to escape from the witch and save the world on the way. The game features PC-quality graphics, ace animation and a nice smattering of speech.



Cursing and enchanting starts in late September, but they haven't decided how much to charge you for it yet. Probably about £2.50, I should imagine.

Hot news on the Gremlin front, kids. Lotus Turbo Challenge 3 will be on the streets before you can say "By jiminy that was quick". We'll be reviewing that next issue, it was going to be this issue but time was against us and it's been delayed.



So next month it is. Stick around for that. Other Gremlin games to look out for include Nigel Mansell's World Championship, Daemonsgate 1, and Hero Quest 2.

The Nigel Mansell game looks to be a sort of arcadey version of Formula 1 Grand Prix and it'll include all sorts of options to tune up your car. Part strategy simulation and part arcade driving game, really. And Gremlin should know. They're very good at this sort of thing. Out in November, with the price to be decided.

Daemonsgate is part one of an ongoing RPG saga, with over 50,000 screens and

Socks and Thistles

over 100 intelligent game characters. You can control eight adventurers, who go about their own business when you're not telling them what to do and another 32 characters can be recruited and abandoned at one stage or another. It sounds a bit big, does it not? Out in December at about £34.99.

Talking of RPGs, Hero Quest 2 – The Legacy of Sorasil is pencilled in for a November release. Another of those evil forces has taken over the land and adventuring we must go. Unlike its predecessor, this one will feature different terrains, new character classes and computer characters designed to help or hinder you. Gremlin describe it as a "step upwards and sideways". Sort of a diagonal sequel then.

Mindscape show us their tips

Are you the sad sort of individual who's hopelessly stuck in Mindscape's Legend RPG? Are you, in short, a bit like the Gamer team? Well then, help is at hand!

Following the success of their Knightmare hint book, they've put together a similar tome for Legend. It contains maps, spells, hints, tips and songs. Very nice for a sing-a-long.It costs a highly reasonable £6.99. Give 'em a bell on 0444 246333 to find out more.

Beasts, nobs and Arsenal

Thalamus, the only software company who's name is almost an anagram of "musty llama", have got some promising titles in that old proverbial pipeline.

Beastmaster is an arcade adventure about a beastmaster, involving trading, communicating and all other sorts of interactive palaver, all in a crisp beat-'em-up shell. It also boasts a 3D "into the screen" play area, and a sort of "moon and sun" rising effect.

Plus, if you can find a clever camouflage cloak, you turn invisible except for a sort of hazy outline, just like in Predator! Waheeeeey!

Arsenal is a football game about Arsenal, the only football team to have a vaguely amusing name. It's an arcadey affair, but with a management side-salad. Loads of stats, and some quite tasty graphics if these are anything to go by.

Nobby The Aardvark is a game about, well why don't you guess? Nobby wants to find Antopia, and you help him out by leaping from platform to platform eating ants and spitting them back out through his proboscis (settle down).

He looks very similar to that crap blue anteater who used to spoil Pink Panther cartoons, but we'll let Thalamus' lawyers sort that one out.

Psychedelic Beetroot

ELSPA PENGUIN CHARTS – COMPILED BY GALLUP

This month		Last month	Title	Publisher	Price
1	▲	1	Sensible Soccer	Mindscape	£25.99
2	▲	NE	Espana the Games '92	Ocean	£29.99
3	▲	5	Lure of the Temptress	Virgin	£30.99
4	▲	NE	Civilisation	Microprose	£34.99
5	▼	3	Monkey Island 2	US Gold	£25.99
6	▼	4	Fire and Ice	Mindscape	£25.99
7	▲	14	Pro Tennis Tour	Hit Squad	£7.99
8	▲	11	James Pond	GBH	£9.99
9	▼	8	Formula 1 Grand Prix	Microprose	£34.99
10	▲	NE	Magic Land Dizzy	Code Masters	£7.99
11	▲	NE	Lotus Turbo Challenge	GBH	£9.99
12	▼	7	First Division Manager	Code Masters	£7.99
13	▼	6	Rainbow Islands	Hit Squad	£7.99
14	▼	12	F16 Combat Pilot	Action 16	£9.99
15	▼	13	Graham Taylor Soccer Challenge	Krisalis	£25.99
16	▲	NE	Pang	Hit Squad	£7.99
17	▲	RE	Project X	Team 17	£25.99
18	▼	9	Epic	Ocean	£29.99
19	▲	NE	Panza Kick Boxing	Kixx	£9.99
20	▼	10	Championship Manager	Domark	£24.99

Pistachio Nuts!

Another World. A creamy game and no mistake. And you'll no doubt be glad to hear that Delphine have been computing over hot beavers, I mean beavering over hot computers to bring you a follow up.

Flashback is the title of this wee throbber, and the story goes like this – Conrad B Hart is a scientist, a bit like Lester in Another World. However, Conrad's research reveals that extra terrestrials have infiltrated Earth by imitating high ranking humans.

The aliens suss out Conrad and have him committed to an institute for bothersome scientists. His memory is erased and he has a small pistachio nut Sellotaped to his left elbow, for no obvious reason.

He escapes and sets about trying to regain his memory. Unfortunately, the aliens strike again and shoot him down over the Titan moon. Can Conrad survive the jungles? Can he find his memory? Is there really a pistachio nut Sellotaped to his left elbow?

Flashback is due in "late 1992" from US Gold and should set new standards in all round software pleasantness.

Also from the Goldsters is Street Fighter 2. We strongly suspect that this might be a beat-'em-up. Don't ask us why, it's just a hunch.

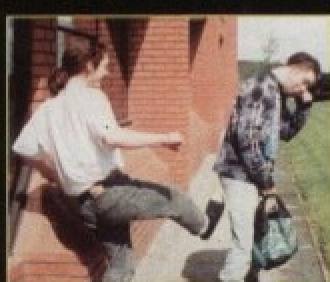


Erm, no plot as yet, so let's make one up. Cheesy Jim, the renowned ninja, has had his milk stolen from the doorstep by fiendish garden birds. And now he's mad. So he sets off round the world to beat people up in every country so he can, er, avenge his lost dairy products.

Apparently it's going to be a pixel for pixel copy of the arcade machine with eight characters to choose from. It'll be out in "the last quarter of '92", which means it's going to be an Xmas release, right kids? Look out for it then, and keep an eye on those pesky blue tits.

Goodbyeee, Goodbyeee

Yes, goodbye dear readers. I, your ever-loving Gamer editor, have decided to fly the coop and make my way in the big, bad world. It's been a fun year, but the time has come for me to move on – just like The Littlest Hobo, that crap dog who befriended deaf children and then broke their hearts by running away again at the end of each episode.



Who will replace me? Who knows? Who cares? Sob sob. It's just like Casablanca. I'll still be about, contributing the odd review from the mists into which I'll be stepping, but my days here are over. Thank you all very much. Goodnight.

THE FLANGE NUT

honey nut loops - richard "nuts about 'em honey" williams
ritual sacrifice - daniel "aztec god" whitehead
bat out of hell - ben "meatloaf" styles
buckets o' chunks - phil "rotate" morse
arty blokes - terry "nirvana" thiele
tym "mudhoney" lecky
alan "soundgarden" jones
ad sales - jane conway
0625 878888
Respect is due to William Harbutt - inventor of plasticine
Hello to Robin Watson in Southampton!
oooh!
next month: heavy rains in Colombia create a vortex in Bernard Cribbins Sunday oxtail broth

GAMER

INNER VISION

Hairy monsters skulking about the place...

REVIEWS

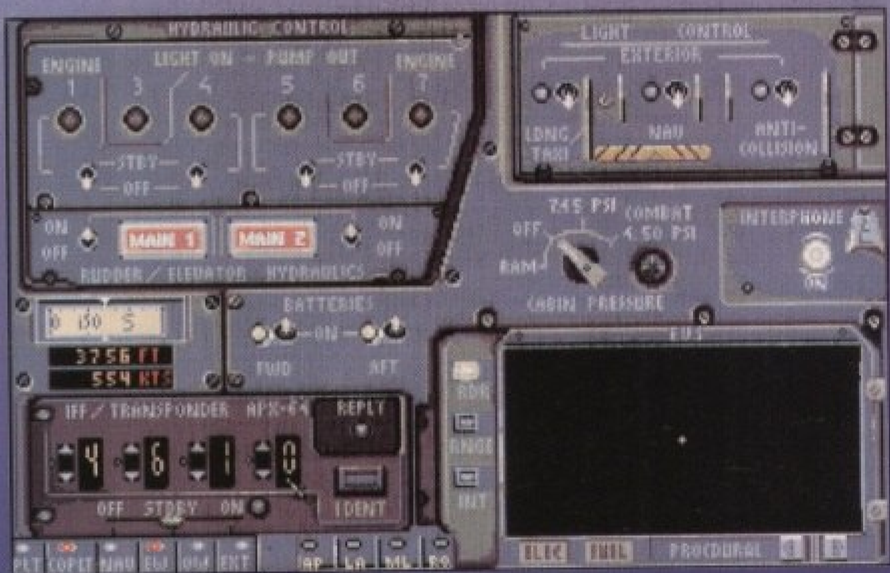


REGULARS

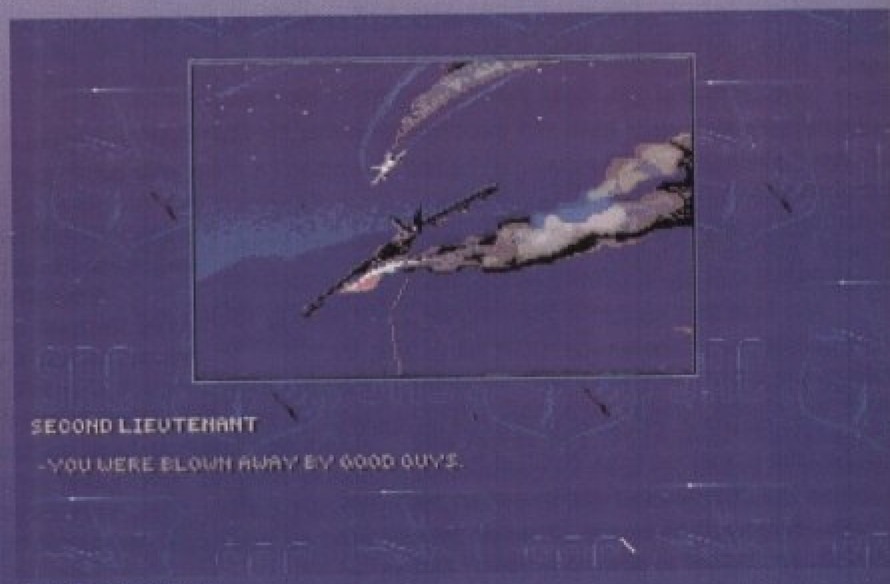
Chocks away chappies!

MEGAFORTRESS

MINDSCAPE • £22.95 • 1Mb • Keyboard/joystick • Out now



The window's a bit small



Thanks a bloody bunch

"But captain, she's held together with toothpaste and bogies, she can'ne take no more."

Come on now all you programmers out there, isn't it about time you concentrated on playability rather than detail? In about a year's time there are going to be flight sims where you'll have to get your pilot dressed in the morning and send his kids off to school.

After getting the kids off to school you'll have to drive your car to the airfield only to find that your plane hasn't been built yet, thus you'll have to build your plane out of Hope and Glory matches and Evostick. Detail is getting a little out of hand on these games.

If you are a generally impatient person like me, then you most probably find games with too much detail infuriating instead of engaging.

Megafortress is one such game. It's so involved that you have to plough through a manual of proportions similar to that of the Domesday Book just to install it onto your hard disk.

In general, the aims of the game are quite similar to Falcon – you choose various missions which include bombing innocent coach loads of vicars and so on. There are three different "theatres" as they are called that you can take part in.

There is the compulsory Persian Gulf without which all the flight sims in the last year or so wouldn't have existed, The Old Dog (your guess is as good as mine) and Red Flag.

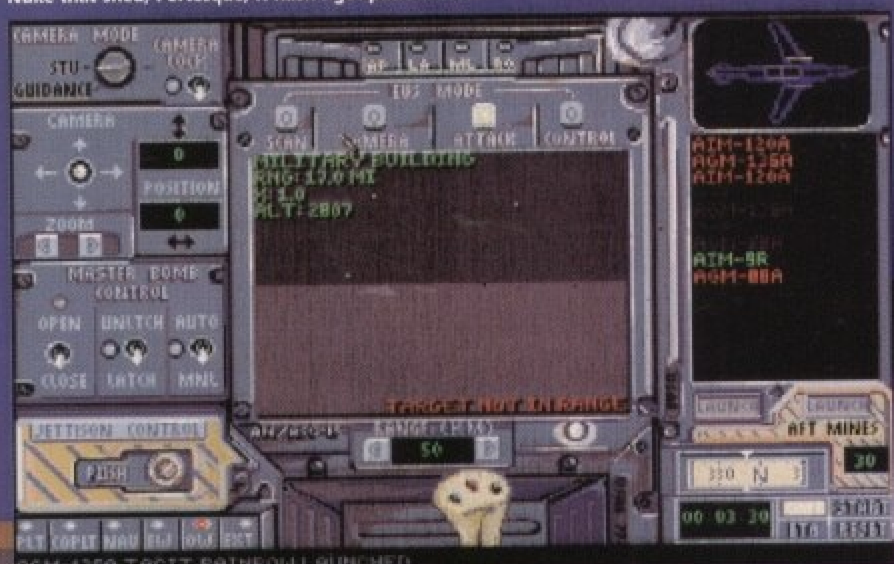
Basically a theatre is a number of missions geared toward the political climate of the era. So the Persian Gulf theatre entails bombing the buggery out of everything that moves and a lot of things that don't and the Old Dog involves an ageing Digby.

Each theatre has eight missions which you can take part in. Once you have chosen a mission you get a quick briefing and off you go.

After choosing the mission you must choose your weapons – a bomber's not much sodding good without bombs, is it? Wow man, the armoury is awesome – every possible type of bomb you could think of – but let's not get silly. There's no point dropping a Cruise missile on one measly control tower, so you must choose the missiles vaguely suited to your use.

Once you have chosen your mission you have to fly the plane – bit of a pain, I know. You can choose from a number of views, such as the main cockpit, the co-pilot panel, comms and

Nuke that shed, Fortesque, it hasn't got patio doors



So much to pull, so much to push



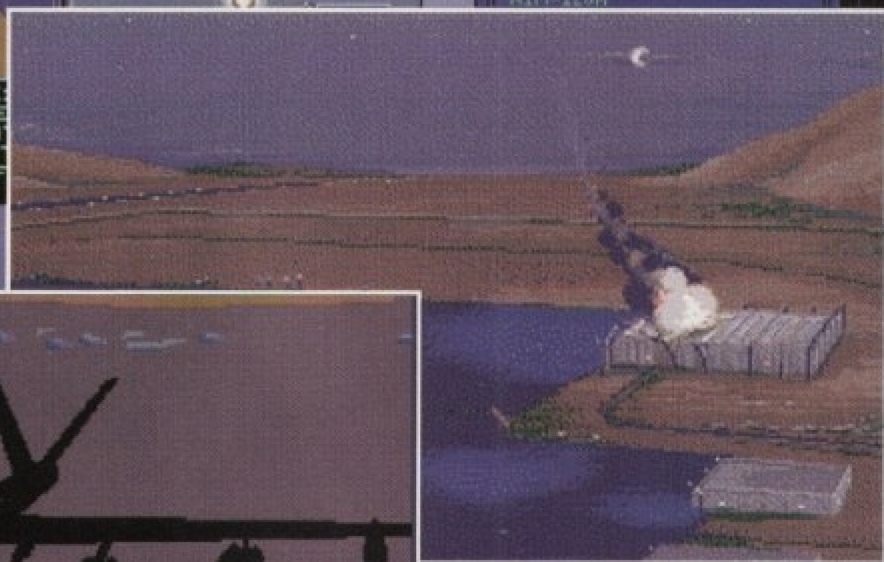




Land ho captain, but someone's dropped a Meccano kit on the map



Luvly, luvly bombs, Sidney



Somebody's trying to tell us something



Today we are going to talk about out of plane experiences

external view.

So first off, you'd better start the plane, really. Now I know that I'm not exactly the Red Baron, but I still thought that starting a plane wouldn't entail much more than a simple twist of a key and pushing a few buttons.

But no, procedures for starting the plane on Megafortress just about stop short of chanting, drawing pentagrams on the floor in chalk and making sacrifices to the God of Aeronautics.

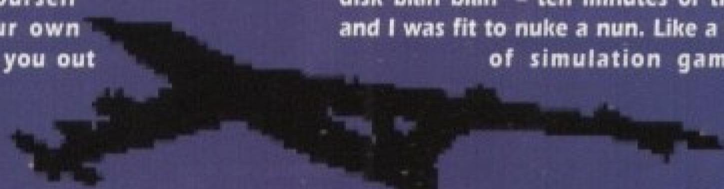
It's all turning on batteries, flicking switches, levering levers – oh, the thrill of the chase. But eventually you will get the thing in the air and off into the great blue yonder.

The detail is a little over the top but flight sim fanatics will lap it up. The different scans and radar are very convincing. It even has the view from the cameras on the bombs, which is a nice touch.

One of the features that I most liked about Megafortress was the mouse control. On all the old flight sims, when you lifted the flaps or something, the lever or whatever moved on the screen, but on MF you actually move the thing with your mouse instead of using the keypad.

From the pilot's view, you control most of the plane's movement. You can use joystick if you want to, but cursor keys are generally a lot better.

From here you can do things like identify yourself before your own guys blow you out of the sky, and turn the lights on, it's even got sodding air conditioning. I thought this was a plane, not Marks and Spencer.



To make full use of the game you would really have to scrutinise the manual quite hard – there were loads of little buttons and bells that I'm sure did something, it's just that I'm not quite sure what.

If you like flight sims you will enjoy this game, but then again if you like them to be graphically smooth and speedy this is definitely not the game for you, and if you don't have a hard drive and you hate swapping disks then you're really knackered.

I tried to play this without a hard drive on an unexpanded 500 and it was diabolical – every single icon you click on brings the old "please insert disk blah blah" – ten minutes of that and I was fit to nuke a nun. Like a lot of simulation games around at the moment, Megafortress suffers from painfully slow screen updates.

The only way I got it running at anything like a decent speed was by having it installed on a hard disk in an Amiga 3000 with an accelerator, so you can see how serious the problem is.

A lot of time has been taken over Megafortress, but it doesn't do anything new for flight sims. If you like 'em though, you'll like this one.

Ben

VISION

Nice but slow as a slow thing.

AUDIO

Pretty run-of-the-mill snoring noises, you know the score.

PLAYABILITY

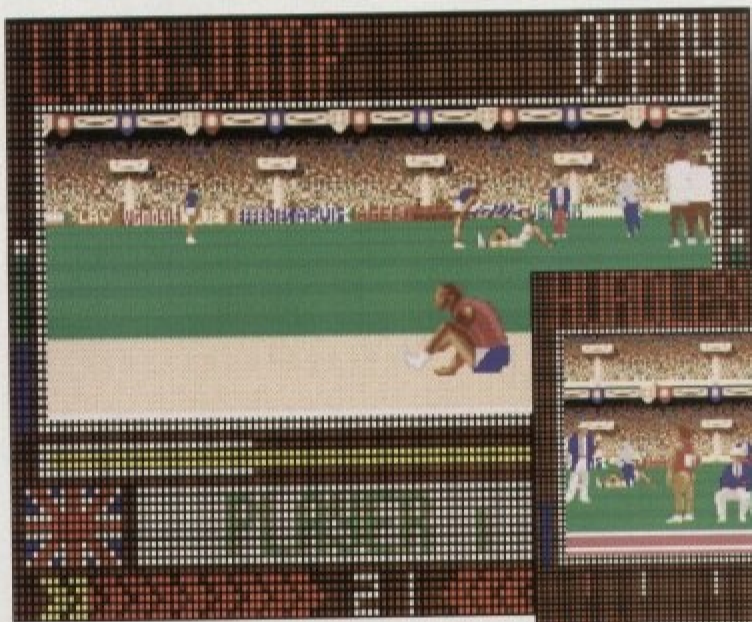
Moderately easy to get into but, it's a flight sim, kids.

ADDICTION

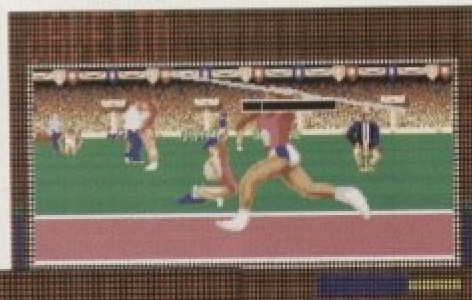
Not a game that many people would lose sleep over.

60%



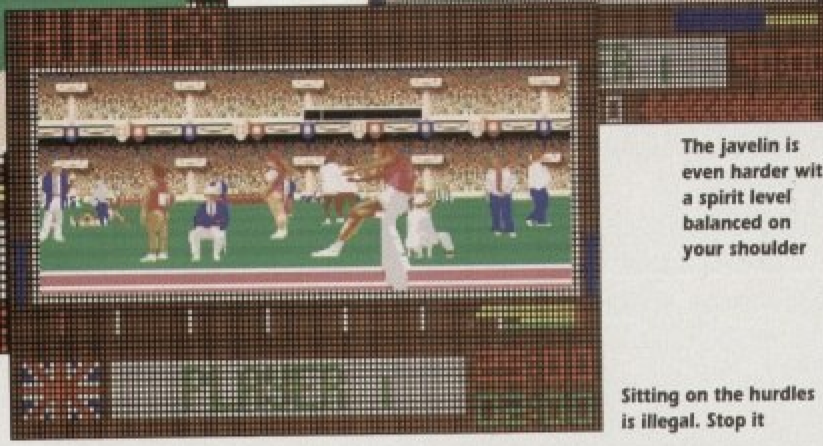


You boy! Stop doing that in the sand pit





Oh goodness! Someone's shot the high jumper! Extraordinary!



The javelin is even harder with a spirit level balanced on your shoulder

Sitting on the hurdles is illegal. Stop it

THE CARL LEWIS CHALLENGE

Insult your fave athletes, by jingo

PSYGNOSIS ▪ £25.99 ▪ 1/2 meg ▪ Joystick ▪ Out now

VISION (3 of 5 G's)
Digitised athletes, with no character and jerky animation.

AUDIO (4 of 5 G's)
Good rousing tune and crowd cheers aplenty.

PLAYABILITY (2 of 5 G's)
Dull, repetitive, unimaginative and ultimately pointless.

ADDICTION (1 of 5 G's)
Ha ha ha ha ha ha ha ha ha ha ha ha ha ha ha ha ha ha.

32%

Carl Lewis Challenge, eh? Sort of "step outside Carl, I reckon you're crap", perhaps? Or maybe, just maybe, this could be a sports game to cash in on the Olympics?

Not that I'm sick to death of the bloody Olympics or anything. Well, OK, so I am. You see, as I sit writing this, the Olympics have just wheezed to a halt. And they really are pointless.

All bloody day on every channel you could watch Brazil and Poland battling it out for the Gold medal in weightlifting. Well that's just soooo relevant to my life.

I don't care who's the best at Judo in the world. Especially if you have to watch BBC1 until midnight to find out. And who won? Which country got the Olympic prize? Nobody. Because there isn't one. It's pointless. And crap. And I don't like it. So there. So can Carl Lewis Challenge help alleviate my Olympaphobia?

No. It's crap as well. Which is very, very worrying because Psygnosis should know better. So here's what Carl Lewis Challenge entails, and just why it's so Stilton-like.

There are three ways to play the game. There's a management option where you set the training for the Olympic Squad and then just watch them compete. Boring. There's an arcade option, which we'll come to later. And there's the "proper" game which is a mix of the two.

The arcade bit then. Well, it's a waggler. Sort of. You can actually choose the control method, so if you can't stand waggling you can use the rhythm method instead (snigger).

This is, to be honest, a very nice idea. It's just a pity that no matter how you control the game, it's still gubbins. The thing is, if you opt for "rhythm" then you have to concentrate too much on the "rhythm-o-meter" and miss your cue to jump hurdles and stuff. Thoughtless.

The problem here is size. You get five events, but they're so similar that you feel really cheated. There are two running events, 100m and Hurdles; a throwing event, Javelin; and two jumping events, High and Long jump.

All of them involve waggling for a bit and pressing Fire at the appropriate time, unless you opt for a different control method in which case it's pressing Fire in time to a moving meter and pressing up every so often. It just conjures up all those Olympic images doesn't it?

It suffers from exactly the same problem as Aquaventura a few months back. It's a tiny game made to look bigger by repeating everything over and over again. You get to do each event five times, fact fans.

Four qualifying heats and the finals. Lose one of the qualifying rounds and you can't enter the finals. It's really saying something that we were actually glad to fail events so we wouldn't play them again.

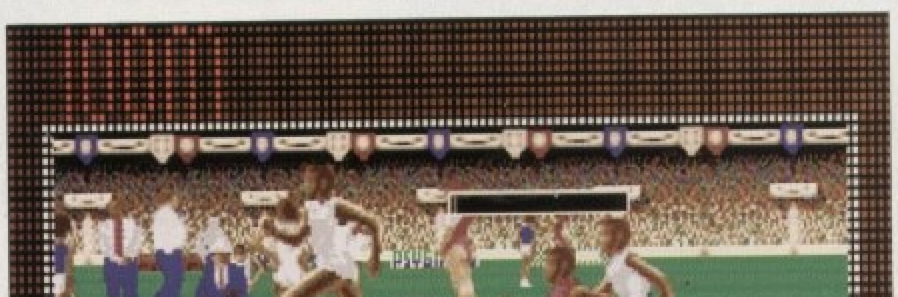
The two-player game won't let you race against each other, and at the end of your ordeal you get to see all the scores and a nice Game Over. Well thanks a bunch.

The graphics are digitised, but lacking any character at all (no faces you see) and the animation is at best stilted and at worst (on the high jump) something the kids would do on Rolf's Cartoon Club.

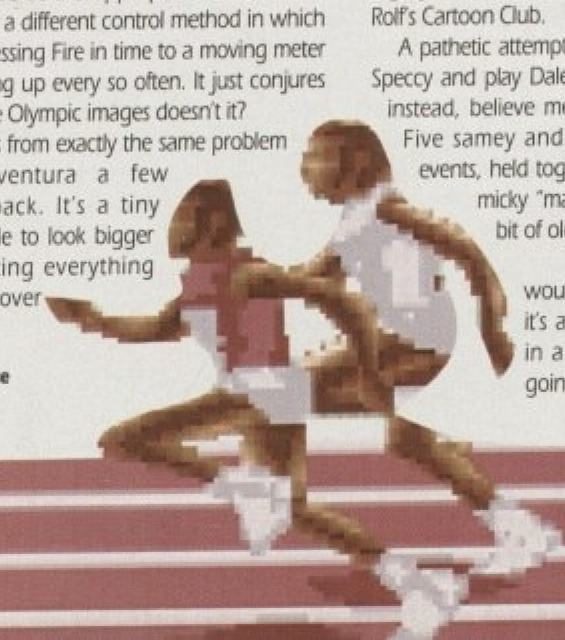
A pathetic attempt, really. Dig out your old Speccy and play Daley Thompson's Decathlon instead, believe me it's the superior game. Five samey and record-breakingly dull events, held together by a simplistic, gimmicky "management" aspect and a bit of old masking tape.

As a budget game this would be crap, as a full price it's abysmal. That's two strikes in a row, Psygnosis. What's going wrong?

Daniel

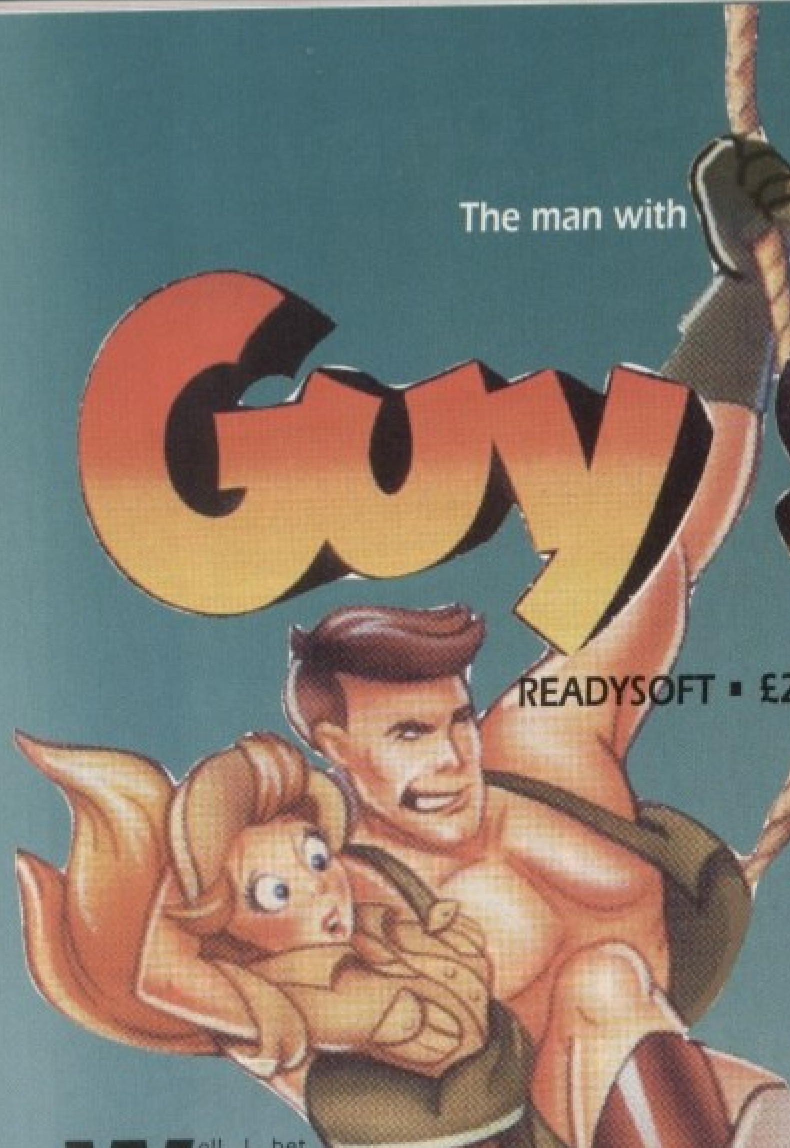


Ref! Illegal use of springy shoes!



The man with the cryptic name

Guy Spy



READYSOFT ▪ £25.99 ▪ 1/2 meg ▪ Joystick ▪ Out now

VISION
They look good as screenshots, but are very sluggish to control.

AUDIO
Not terribly hot, you'll be sorry to hear.

PLAYABILITY
Too slow and syrupy to be instantly appealing.

ADDICTION
Different level styles add interest, but no fun really.

64%



"My bionic breakdancing should fox those scoundrels," chuckled Guy



"Cripes, that was close," mused Guy, "I almost left my Starlight Express tickets at home."

Well I bet chummy-boy here never gets rumbled in his spying escapades. I mean, who would ever guess that Guy Spy is a, gasp, spy?

"So Guy Spy, what do you do for a living?"

"I'm in charge of fresh meats at the local Kwik Save."

"No you're not. You're a ruddy spy!"

"Blimey, it's a fair cop. How did you find out?"

Who knows, eh? It's just like the fact that James Bond is supposed to be this dead secret agent, but every time he goes into a bar it's: "Ah, Good Evening Mr Bond you secret agent, you." Crap, the lot of 'em.

And on top of all that, Guy Spy (for it is he) doesn't seem to think that running around the world waving his gun about is in any way conspicuous. And what is he doing when we first see him?

Legging it into a Berlin tube station and shooting loads of baddies. That's what. Very undercover, I don't think. And, lo, here we must grab our stick and guide Guy on his quest for the Crystals of Armageddon (dan dan daaaaan). Well, by now that little seed of doubt nesting twixt your brainstem and nasal passages has probably bloomed into fully-fledged apprehension.

So, yes, it is by the people who inflicted Space Ace and Dragon's Lair on us. And yes, the screenshots do tend to say "looks nice, plays like a toilet".

But, oh gentle and fair reader, let me cool your steaming brow, for Guy Spy isn't nearly as cack as those "epics". On the other hand, it is still fairly ropey as an actual game.

You see, no longer do you have to just twitch the joystick in one direction at the right time to progress. Now you actually control Guy on the screen, and can move and fire whenever you want.

Unfortunately, we've still got the "oh wow, it looks like a cartoon" graphics so even the most exciting shoot-outs play in slow motion.

It does, being nice for a minute, successfully convey the feeling of a story by having loads of different levels in different styles.

There are a couple of Oppo Wolf-style sections (most notably the first two levels in the tube station and the cable car), there's a skiing bit, viewed from behind, and a maze bit and loads of others.

But the problem lies with the graphics. They're so big and colourful that they don't move quickly enough, and the controls feel really sticky.

I've lost count of the number of times I died on level one just because Guy wouldn't respond to my commands fast enough.

The other loss from the earlier ReadySoft games is the speech. With more control over the on-screen action it just doesn't look like there was room for the wazzy audio effects. Chugging guns are about the limit here.

Hmmm. To sum up then, Guy Spy is a big improvement over the other ReadySoft "efforts", and a damn sight cheaper too. But on the other hand, it's still a long way from being a playable game.

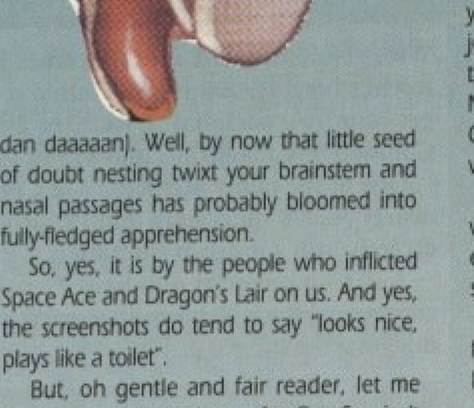
Maybe it's time to admit that cartoon-quality graphics and animation on the Amiga just don't make for good games. Get the gameplay right, then bolt on the flashy bits, not the other way round.

It's getting there, but still no cigar I'm afraid. To use a phrase still all too commonly used for ReadySoft games, it looks great but not really worth forking out the wonga for. It's been nice knowing you Mr Bond. Ha ha ha ha ha ha ha ha.

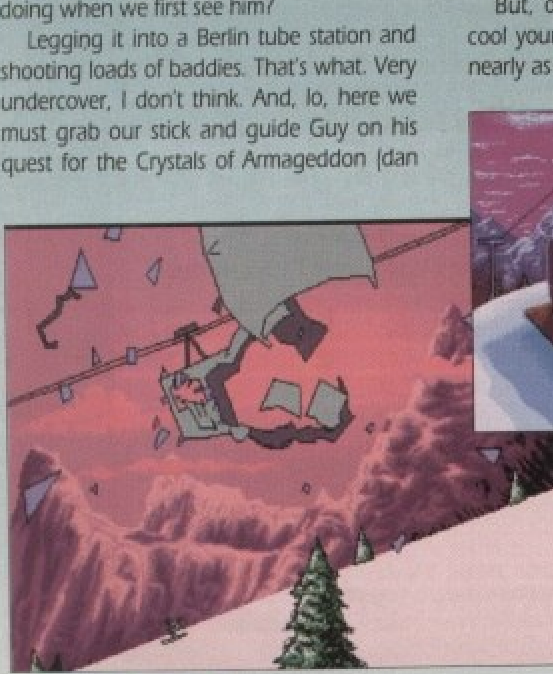
Daniel



"You dirty squatter," joked the bloke in the next cable car, knowing a good caption opportunity when he saw one



"Golly, I'm bursting!" hyper-ventilated Guy, running for the Alpine Service Station



"So that's what the big red button does!" smirked Guy as his limbs went into orbit

the source

Splat! Squelch! Rsssp! Daniel Whitehead bends it every way he can as he looks at System 3's Silly Putty game...

We're plunging head first into the "weird jungle" with this little escapade, I can tell you. And we haven't even got a thermos of cocoa.

But first a question – what do you get if you cross Lemmings, Fuzzball and, er, The New Schmoo? Silly Putty of course. And here's why...

Our hero, a blob of the eponymous stretchy goo, has got lost. He's been banished from his home planet of Putty Moon by the evil wizard Dazzle Daze. Ol' DD wants to turn the malleable inhabitants of Putty Moon into chewing gum, and naturally Silly Putty isn't too chuffed about this.

So he sets about getting back to Putty Moon to save his pals. How can he do this? After all, his only real construction talent is the ability to stick to any carpet and annoy mothers around the world.

So he enlists some help in the shape of a race of solar-powered construction robots. They start building a skyscraper to reach Putty Moon, which is a bit drastic and very probably physically impossible, but perfectly acceptable in the world of computer games. However, there is one small problem...

They only work during the day. As soon as night falls, they shut down



their "common sense" circuits and start milling around like, erm, a bunch of millers. Naturally, in this state they tend to fall off their platforms and die in no uncertain terms.

Put it down to youthful exuberance if you like but if all the robots kill themselves, the tower won't get built and Putty Moon is doomed to be great to chew, even greater to share forever.

But, charging through the mist on a white charger comes Silly Putty. Tarantara! By making the most of his putty-esque qualities, Silly can save the robots, the tower and thus Putty Moon. So what can the Puttster do exactly?

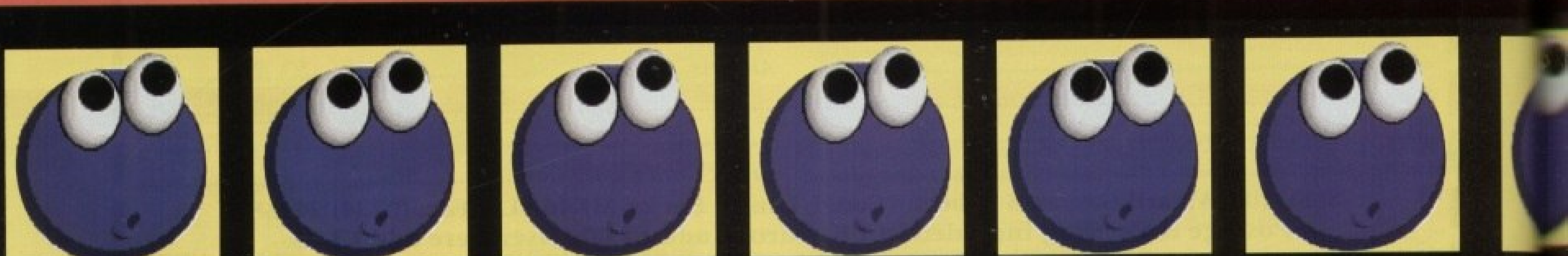
He can stretch for one thing. A bit obvious, but he really can stretch. Sper-oing he goes and elongates himself up, down and left and right. None of this "out of reach" gubbins for this fella.

He can also jump by sort of compacting himself and then boinging upwards. Quite athletic for some glorified Play-doh, eh? And he's not only

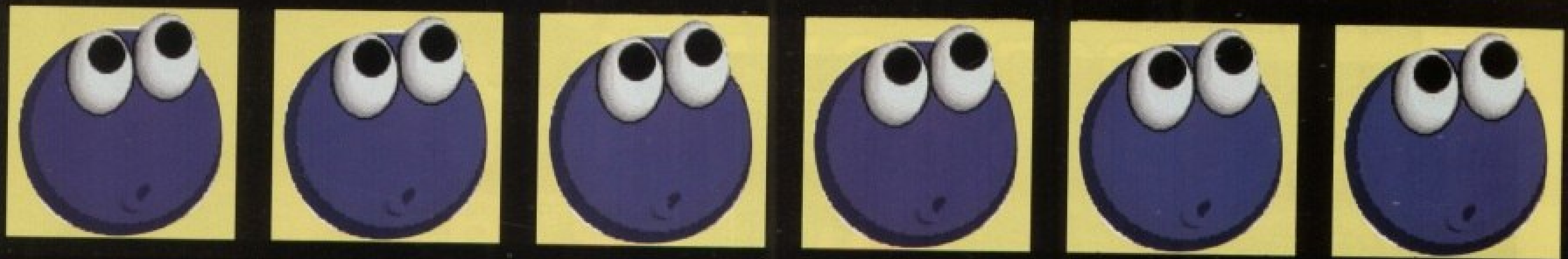








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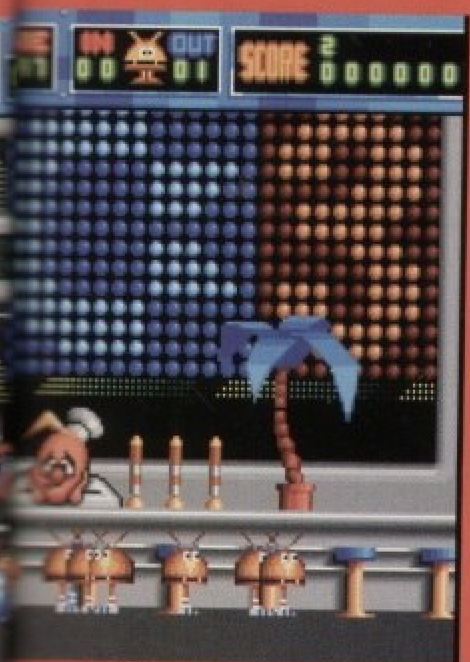
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athletic, he's quite 'ard as well.

Not 'ard as in "someone left the lid off the Plasticine and now it's all dried up" but 'ard as in "don't mess with me matey". 'Cos Silly Putty can pack quite a punch and sock the bad guys populating the platforms.

And if that's not enough, Silly Putty can turn himself into a smart bomb by pumping himself up to titanic proportions and then exploding everywhere. Yowsers. But Silly Putty's greatest power is his sponginess. By scrunching down flat and then sort of slurping up around an object, he can absorb it.



This comes in very handy for collecting icons and stuff, and is essential for helping the robots. The only way to be sure the robots make it to the exit on each level is to absorb them one at a time and carry them to the exit.

However, if you take a hit while carrying a robot you lose the poor fella and have to do it again. Tricky or what?

There's an added bonus to this "absorbing" malarkey. By wibbling his squidgy body around an absorbed object or baddy, he can take on its appearance just like a spooky, squashy chameleon. Brilliant.



So as you can see, this Silly Putty is an incredibly versatile little sprite. And take a look at the piccies liberally scattered around these pages.

He's a bit of a cutey, ain't he? See the little eyes perched on top of his cutesy blue form? They've only just been added. He used to be just a blob, but the eyes have been put on to give him a bit more character.

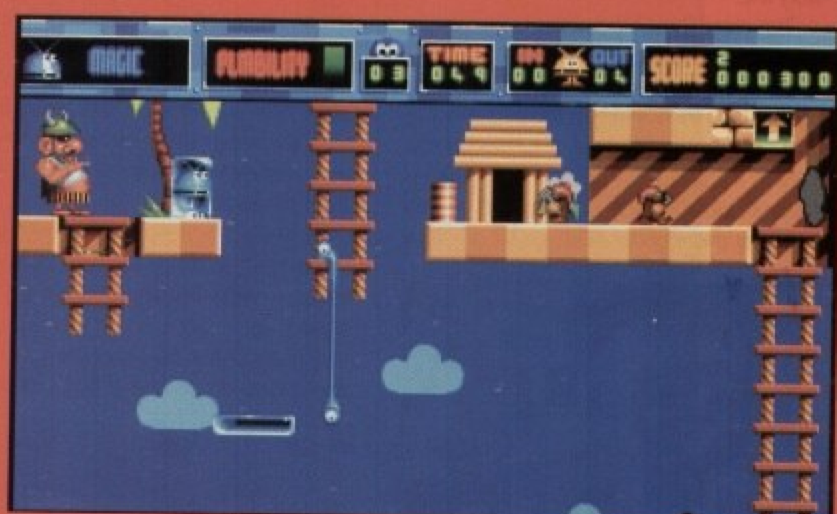
And when he stretches, one eye stays where it is and the other wobbles all over the place in a quite rib-tickling fashion. He's certainly one of the more interesting characters to come out of computerdom.

And what of the game? As I said before it contains a lot of elements. Not quite a platform game and not quite a puzzle game, but a scary and weird land twixt the two.

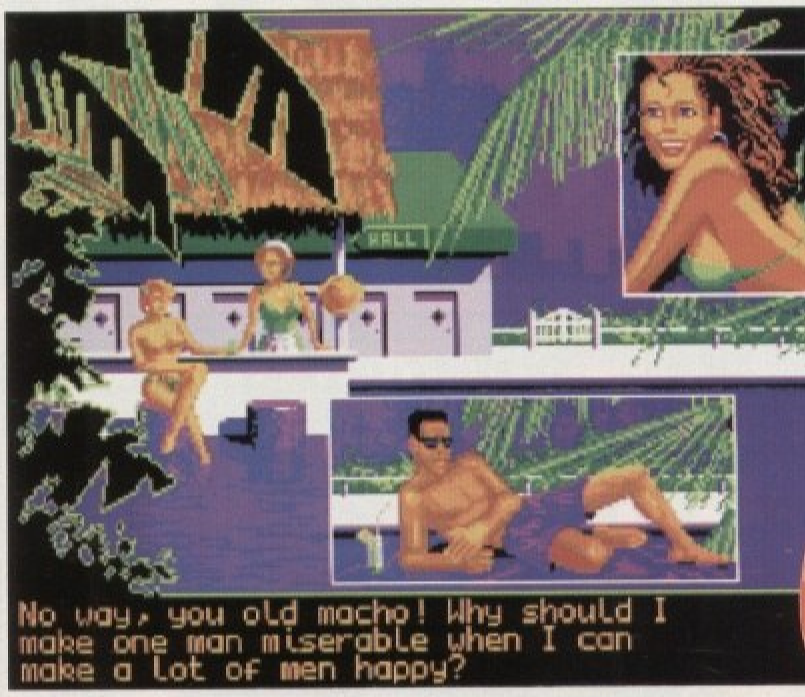
The idea of saving the robots is unmistakably Lemmings-ish, but add some platforms, some really off-the-wall baddies, and a stretchy wibbly central character and you've got a whole new ball game. System 3 are already boasting that Silly Putty is going to be the most original game for a long time. And it's not hard to see why. It certainly looks promising and it's come a long, long way since the early demo versions.

Silly Putty is definitely one to keep your eyes on, as it could be a sneaky hit. It's scheduled to hit the shelves sometime between this issue and the next, so we'll be giving it a review then. Boing!









Well that's very feminist, isn't it? And what the hell's an "old macho" anyway?



Eldorado meets James Bond

FASCINATION

DIGITAL INTEGRATION • £25.99 • ½ meg • Mouse • Out now

It seems like Digital intergration have managed to round up all the sad and unfortunate programmers in France to develop one of the saddest games I've seen.

The French just aren't funny any more. The last game they produced that sticks out in my mind was Psyborg. Although it was a reasonably good game, it had a really bizarre story line.

The story this time is about a new substance that has been developed. Apparently it will revolutionise the world of neuropsychiatry, but from then on it gets too obscure.

Amid the babblings of neuropsychiatry, they've managed to incorporate a randy air hostess called Dordlice who has inadvertently come by this wonder fluid – a bit of lateral thinking by those wonderful French people.

As if the compulsory stupid story line isn't enough, we have to put up with the ridiculous French sense of humour, which consists of jokes that aren't even fit for Bob's Full House.

This game is from a genre designed for a special type of person – someone who has an unusual amount of patience. Like Operation Stealth and hundreds of games before it, Fascination is very slow to play.

I like to have things going on, which is why I hate playing flight sims simply because they are a waste of time when played on slow machine – the playability will be nothing like it should be.

In the first screen of the game there are some really blatant attempts to show off naked women. Pointing and clicking on the shower, for instance, brings you two or three very badly drawn frames of the lady in question showering her naked bod – believe you me they don't do it very well at all.

The aim of the game is to get the vial of this fluid to a friend of the man who died on the plane. As you have probably gathered, the gameplay is abysmal. It's a very badly done point-and-click adventure – you have the various options of use and take but the clues are just too obscure.

Several entail you finding a certain pixel on the screen. If you really persevere with it then maybe you could get somewhere but it's very hard going (yip yip).

Some of the clues in the game are just plain crap. Old Delores got the fluid from some old codger who popped his clogs on her plane. Before he died he said the combination to the brief case was... AAARGH! and promptly snuffed it.

No prizes for guessing what the combination is. The clues that aren't crap are just plain tedious, like find the telephone book to find the number, snore, snore and so on. There's one screen where you are in the pool, while yakking way to old friend (wink wink) and you need to find a pendant.

To find it you have to turn on the pool lights so it glitters – obvious really. Now to turn on the lights you have to click on a single pixel in the corner of the screen. You can see why it gets so irritating.

Graphics-wise the game is quite pleasing, in the places where it's not showing pictures of naked women. There are some effective moody shots of car-parks, dark alleyways and so on, but it doesn't make up for the bad gameplay.

The single most irritating thing is the bloody awful breaks where Delores bumps in to one of her old bed partners.

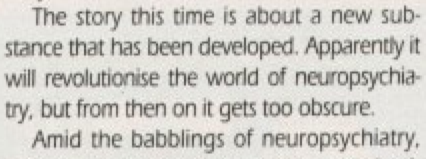
They then launch into the most tedious predicable conversations you have ever heard. You thought the Eldorado script was bad – this is sodding Shakespeare in comparison.

One thing I look for in a game is a decent soundtrack, but apart from a short dodgy tune at the beginning, Fascination has absolutely none to speak of. I'm just thanking my lucky stars that they didn't digitise the speech on the conversations.

Definitely a game for the sort of people who enjoy drooling over the underwear section of Rackam's catalogues. If you're after a mouse-controlled adventure game then you're better off with Operation Stealth.

Better still sit in a room watching Eldorado with a copy of the Sunday Sport. This month it's an over-sexed air hostess, next month it's going to be a raving mad lorry driver.

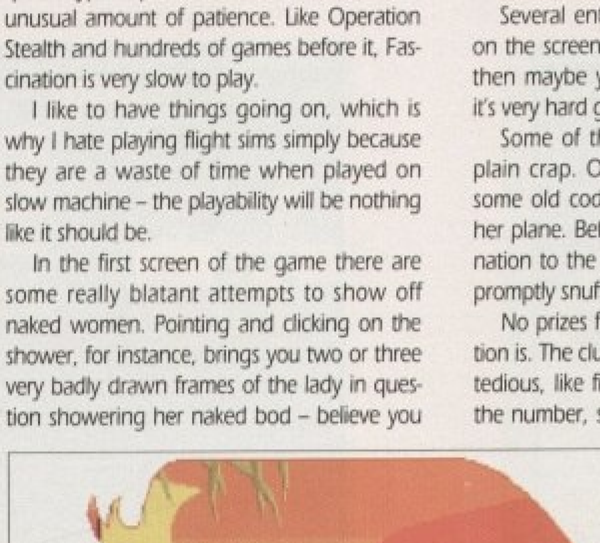
Ben



Which do we search? The ashtray, or the fuzzy copy of Playboy? I'm an ashtray man myself..

And that's not the only dog in the game. You should see the girl in the shower. Eeeurgh!





Now where would you hide a vial of secret chemicals?

VISION GGG
Some nice graphics here and there but generally naff.

AUDIO G
Sorry, did somebody say sound?

PLAYABILITY GG
Guaranteed to have you ripping your hair out very quickly.

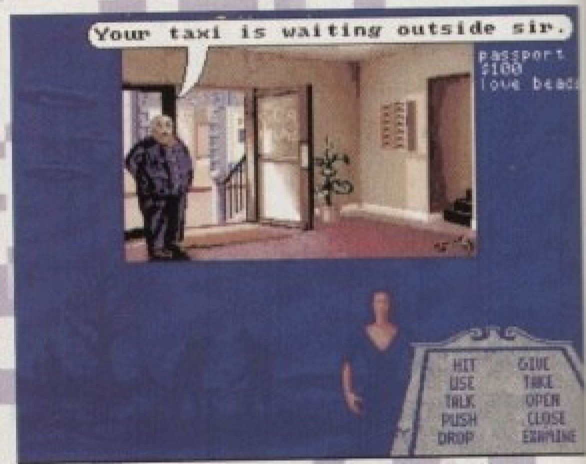
ADDICTION G
Too irritating to play for more than two minutes after the pub.

47%



I take it that's a "No" then


Take your pick from the meatiest selection of B-movie pap this side of Channel 4



At least they avoided the "Certainly sir, you're a taxi" gag

I'd like to thank the Academy...

PLAN 9 FROM OUTER SPACE



The strange thing is, these taxis never actually charge you. Spooky or what?

GREMLINS ▪ £34.99 ▪ 1 meg ▪ Mouse ▪ Out now

Ha ha ha ha ha ha ha ha ha. Sorry, you've just caught me watching Plan 9 From Outer Space. Ha ha ha ha ha ha ha ha. It's quite crap, and possibly the funniest film ever made.

And lucky for you out there in Punter-land, it comes free (free! free!) with Plan 9 From Outer Space – The Game. Well, not really free 'cos the game costs a hefty £35, but you get the idea.

And how crap is Plan 9? Here's a "do it yourself" visual aid to help you find out just how embarrassing this movie is. Pop downstairs and have a rummage in the fridge. Get some cheese, or if you haven't got any pop down the shops and buy some.

Now, wrap the cheese in a damp rag and leave it in the sun, or behind a radiator. Leave it for six months. Unwrap the cheese and take a big sniff of that lovely aroma. Plan 9 From Outer Space is twice as cheesy as that.

Indeed, this could well be the only game to actually have an excuse for being crap. Unfortunately, or fortunately depending on your point of view, Plan 9 – The Game isn't immensely crap really. But it's nowhere near as good as it should've been.

Time to zip up our lycra Reviewer Man costumes and use our amazing Nit Picking Powers to find out exactly what's going on. Ker–ziiiip!

Rather than going for the obvious film licence approach of taking the plot of the film and scrunching it about so it fits in with a dodgy old platform game, Gremlin have chosen to use the making of the film as the background to the game.

You've been hired by the producer to track down the missing reels of Plan 9 From Outer Space and return them before the gala opening performance. Of course, it'd probably be better for all involved if the reels were left to rot where they lie, but hey, that wouldn't be much of a game would it? So locating the reels it is.

And for some reason they've been scattered right around the globe. Which makes your job a bit more difficult than the "rummaging in a store room for half an hour" you were looking forward to.

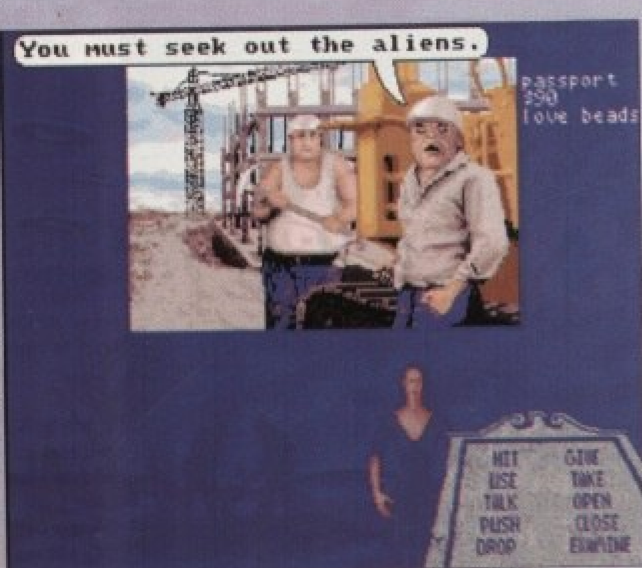
You start at the producers office and, well, you've got to sort of pick up clues to allow you to find new locations and eventually the six canisters of film.

Examine the surroundings, pick up objects, that sort of thing. You know the kind of stuff that's involved in these games. Elvira 2 is probably your best reference point here.

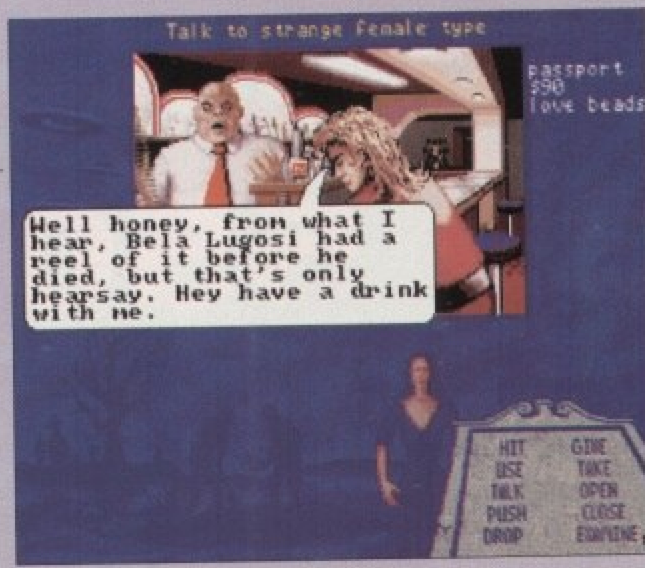
So what's wrong with that then? Weeeell, I would've enjoyed this game a whole lot more if there wasn't such a sense of claustrophobia about it all. Each location is severely limited, with maybe one or two objects that you can examine or pick up.

Plus, there are too many instances where the game decides you can't do something that you should, ideally, be able to do. For instance, there's a cigar box. Does it serve any useful purpose? How am I supposed to know? I tried to open it and was told that it wasn't possible. Why?

The same thing applies to far too many



Thanks for that helpful advice, David Icke, you lilac pillock



Don't fancy yours much



And you thought Biffa had gone for good!

other objects and people. You want to experiment and try different things but the game just tells you that you can't. Very frustrating.

Let's face it, with those sort of restrictions, advancing through the game should be a doddle. After all, with relatively little brain power you should guess what objects to get. But the game decides to scupper you once again by having far too many instances of "sudden death".

If you don't have the right object at the right time, or if you do have the wrong object at the wrong time, it can be game over without any chance to rectify your mistake. And if you forgot to save the game then you're likely to rip huge chunks of scalp away in frustration.

Which, sadly enough, leads me on to yet another niggling little niggly thing. You can install the game with no fuss on your hard drive but when you come to save the game you have to format a disk and save to floppies. Kinda defeats the object of the hard disk really, especially when there's not much swapping involved if you do play from the original floppy disks. Grrrmph.

Now I know this is all sounding a bit negative, you must think I'm wearing my "grumpy trousers" or something, but that's exactly my point. Plan 9 From Outer Space has got all the qualities it needs to be a great adventure, but there's always some silly little bug cropping up to spoil it for you.

Like the fact that sometimes the game tells you that you can't carry anything else, but if you buy something or find something while searching another object it goes into your inventory without any trouble at all.

And when you drop objects they vanish, so you've got to very very careful. Moan moan moan. There I go again, eh kids? If I sound a bit narked then it's because I am. This could've – and should've – been a brilliant game. The graphics are good, there's a kitsch B-movie soundtrack and a few decent FX.

The licence has been dealt with in a fresh, and exciting way, and the humour embraces both the unintentional guffaws of the film and plenty of mickey taking at the film's expense.

It's just a pity that the game doesn't stand up very well as an actual adventure game. A sound idea, but fundamentally flawed I'm afraid.

Daniel



Settle back and view you're finished masterpiece...

VISION

Nice cameos by the films cast, and some digitised footage from the movie.

AUDIO

The tune does get on your nerves after a while.

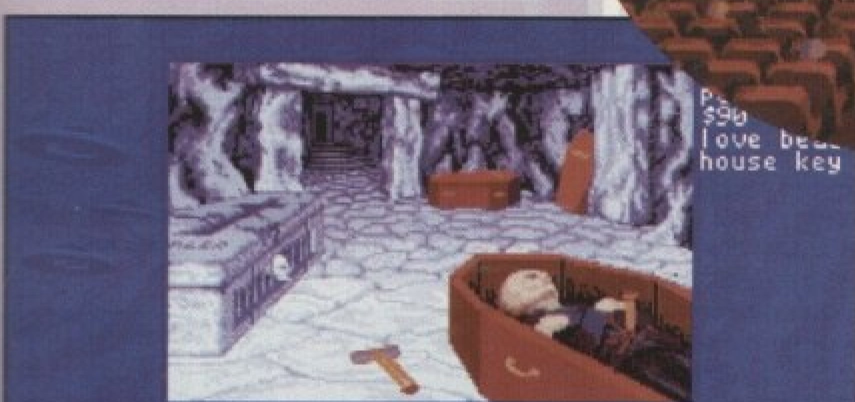
PLAYABILITY

Thoughtless game design makes it unnecessarily frustrating.

ADDICTION

For the forgiving types only. Too sloppy for everyone else.

75%



I don't think he'll be the most helpful guy you'll meet



Hey, you look just like Richie Cunningham in Happy Days...

You're absolutely bonkers, Smashie

Crazy Cars III™

TITUS ▪ £25.99 ▪ 1/2 meg ▪ Joystick ▪ Out now

VISION
Fast enough, nice backgrounds but samey sprites.

AUDIO
Driving rawk toon, plus roaring engines and whooping sirens.

PLAYABILITY
A bit more depth than most other racey games.

ADDICTION
You'll get bored eventually, but still recommended.

85%

So just what exactly is a crazy car? Perhaps it's a Morris Minor hanging around bus stations asking passers by if they've seen its camels. Or it could be a Ford Escort discussing the life cycle of the wasp with a packet of fruit pastilles?

Or how about a group of VW Beetles giggling at a rose bush? Those are all fairly crazy. But what's really crazy is releasing yet another driving game.

I mean do we really need another? Do we want another? After all, we've just had Jaguar XJ220 and that just wasn't different enough to make it a Lotus beater. And let's talk about that old chestnut.

Why is everyone so determined to "beat" Lotus 2? Why not just admit that driving games have reached their peak? At the most you're only going to be able to boast some minor technical triumph.

Oh, so it's three frames faster than Lotus? Very exciting. Is it worth splashing out on a game that's exactly the same but three frames faster? I doubt it personally.

But, for some reason, the well-monied public seem to love splashing out on stuff they've seen before.

And so, will they get their money's worth from Crazy Cars III? I reckon they will actually. It's certainly better than Jaguar as far as playability goes. I always found Jaguar too clinical. It actually looked and played like a game that was written solely to beat Lotus, and that was where it fell flat. There was no "soul" to the game, y'know? No worthwhile purpose behind thundering about the place. Boring, to be blunt about it.



As far as map pictures go, this is a prime example

CC3 avoids that by at least giving you a reason to race. You've entered into the world of the Cannonball Run, the illegal road race across America.

Pay yer entry money for each city, wager against the other racers, win the race, collect the loot until you've got enough to buy your way into the district championships, thus letting you win the big prize and snog loads of really ace birds. Well, that's the theory at least.

So you pick a city to race in, according to how much entry fee you can afford to spend, and then huddle down in a dingy shed to bet on the outcome. Quickly leg it to the road and set off, racing against up to three league drivers like you and about seven or eight local racers.

Oh, and let's not forget the everyday drivers and the police. The innocent civilians still bomb along the roads at reckless speeds, but they only serve to get in the way rather than trying to win.

The police are a different matter entirely. Understandably narked at these law-breaking road hogs, they'll lie in wait, and attempt to pull over any car going too fast.

This means you of course, but if another racer speeds past you then the police go after them instead. If you stop when the police are on your tail, you lose the race and have to pay a whacking fine.

A bit pointless actually, 'cos nobody's going to slow down and stop when you can easily outrun the rozzers, but there you go.

Wait a mo, there's a smoke signal on the horizon. It's from Kevin Costner.

"What's it like then, this Crazy Cars III?"

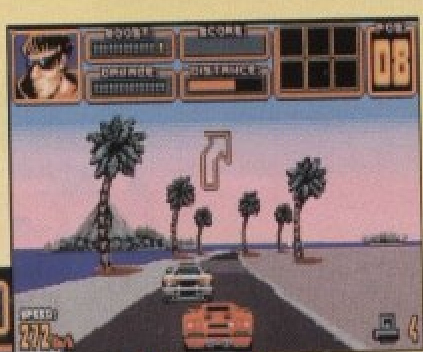
I'm just getting to that bit, Kev, you impatient whippersnapper. It's not bad, if the truth be told. It's better than Jaguar because Titus have remembered to put a game in here, but it lacks a two-player mode which could've made it a real stonker and a probable Lotus killer.

It's got all the necessary technical doobries to make it an acceptable driving game. Fast graphics, roaring engines and so on, plus it gets the adrenalin pumping with the police up your bum, your opponent out in front and your Mum telling you to come and get your tea. Sort of.

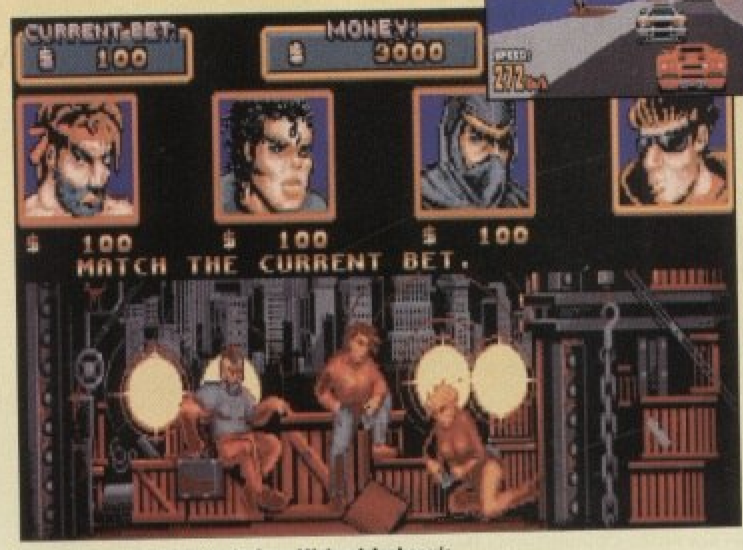
And, hey, I'm feeling kinda mellow so I'll ignore the fact that it's criminally unoriginal and that driving games usually bring me out in huge weeping pustulent sores, and say that it's quite good.

So if you want to buy it, I won't be very cross. In fact, I might pop round and have a game. Because I love you. Honest.

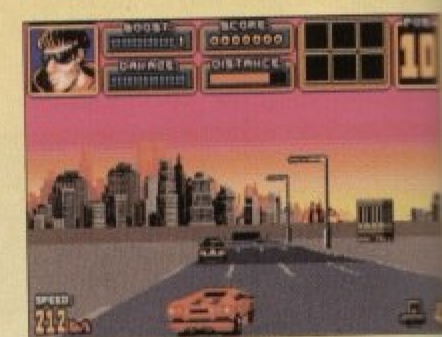
Daniel



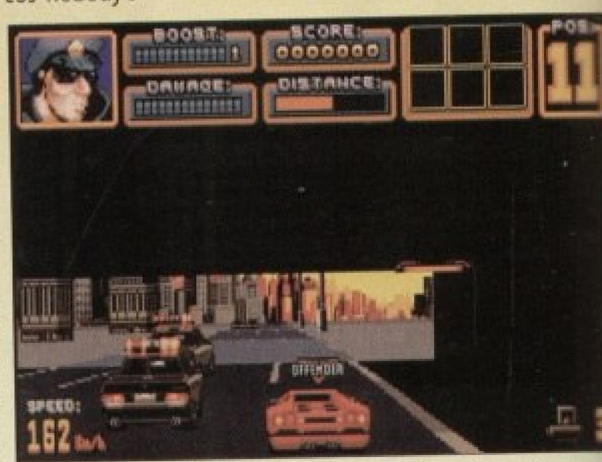
Rad and non-bogus action-type escapades in gnarly Miami, dude (was that OK?)



Bet on how long it'll be before Michael Jackson's face collapses in on itself. Allegedly



It's the "pedal to the metal" race home after a hard day at the office



Particularly smelly cars are penalised with a large sign on the roof

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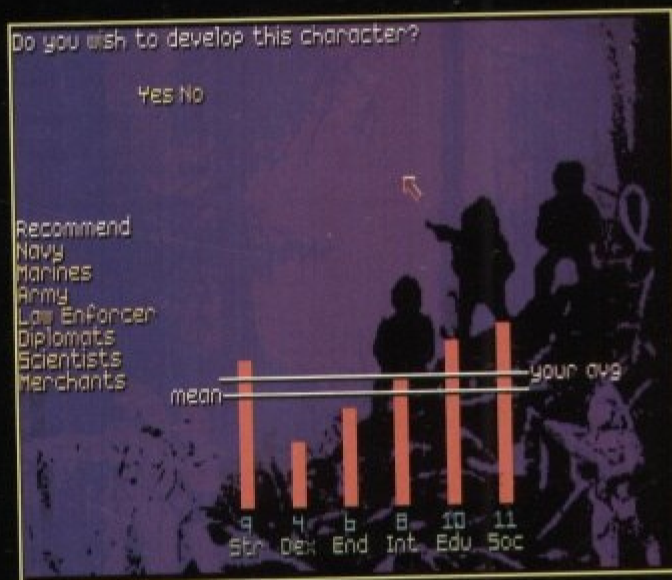
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OK, how many of you know what a Traveller is? Is it a heavily unarmed person who roams the home counties terrorising local farmers through the despicable tactics of driving a dirty bus within visible range of a rich person, or carrying out acts of callous, premeditated camping?

Nope, hands down all you Sun readers. Traveller is the original sci-fi RPG, and MegaTraveller 2 the second computer version of that most loved and played paper-and-pencil-and-crate-of-lager-in-the-small-hours game. The original was one of last year's best RPGs, so the sequel has a lot to live up to. Does it succeed?

Well, yes and no, though mostly yes. The player's initial impressions can be a little disappointing as the graphics aren't up to the standards of the first game and the game itself has a less tightly constructed feel to it, but there are plenty of consolation features. More plot than a Hitchcock movie, improved gameplay, and a healthy wodge of lasting appeal make this one a winner. Sorry about the ambiguous conclusion, but I don't like to be tied down to these things.



Hmm... clumsy, but a bit of a toff. Nah, dump him!



The problem with customs is that they keep taking your guns away. Waah!



Can I have a small nuclear device to take away, please?



MEGA

The game opens on Rhylanor (sounds suspiciously like a certain North Welsh resort), where the local populace are threatened by a river of highly corrosive green slime pouring from the site of an ancient civilisation. Bleedin' archaeologists! They just wouldn't leave it alone, would they?

The planetary government, while assuring the people that this is merely a "blip" in their world's life expectancy, are offering huge rewards to anyone stupid enough to try to stop the slime, and that's where you come in.

You have 2,700 days (!) to find out what's going on, how to stop the slime, and why Jimmy Hill hasn't yet been melted down for scrap. As the party of brave adventurers is sort of left out on a limb, the game has a hint function which will point you in the right direction if you get lost, so a quick stab at this has you looking for the chief archaeological expert.

Trow Backett (for it is he) gives you a few pieces of equipment which I couldn't get to work (only got CSE Metalwork Grade 4, I'm afraid), and points you in the direction of the library.

This wondrous building has a computer you can access to pull up information on just about everything (though repeated entries of "Jimmy Hill" elicited no response other than "Classified").

After ten minutes here, I'd discovered where all the other ancient sites were – there are seven of them – and headed for the travel agency.

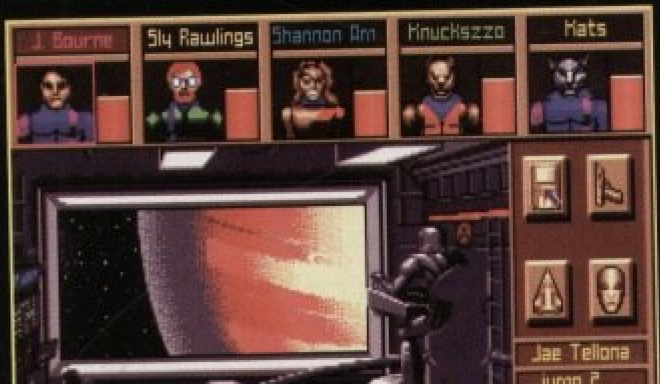
The rest of the game is a fairly deep plot involving mega crime, mega corporations, and not a few fire-fights with shady characters and drunken Jimmy Hill supporters. The action unfolds in similar fashion to MT1, which means gradually over a long period of time.

Gameplay has been developed quite a bit since the original rather limited options of talking to someone, scrounging information from them, shooting them, then pawning their possessions.

Players can now buy items from NPCs, sell to them, or interrogate them



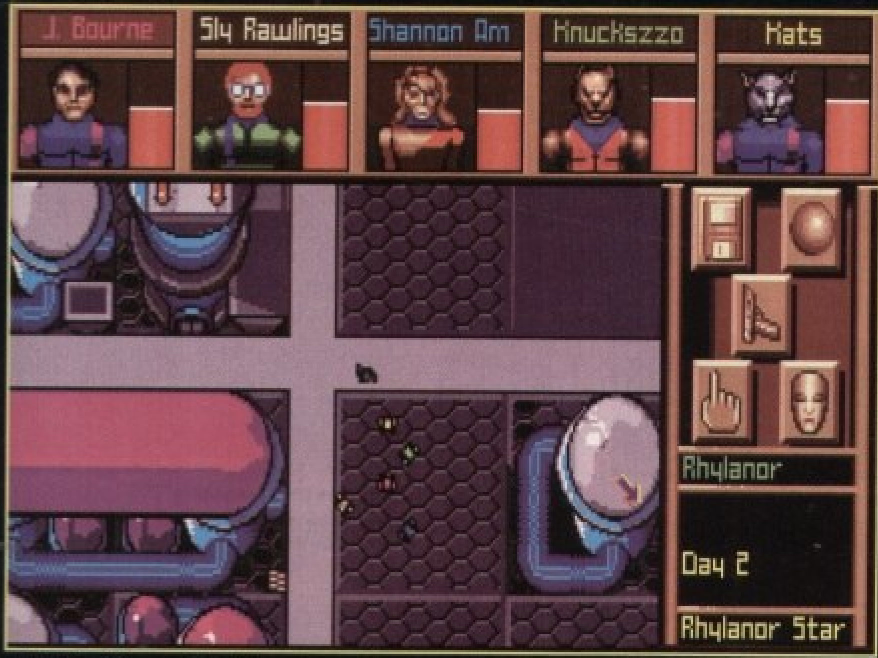
Space combat is uninspired, but sometimes necessary



Gassing up at Gas Giants saves money, and is enviromentally friendly kids



God was obviously in a geometric mood when he created the planets in MT2



right lads, this one looks like he's got a fat wallet. Phasers on Kill...


Meeting Trow sets the plot rolling and makes you glad you dont look like him




Town planning is another area in which MT2 doesn't exactly triumph

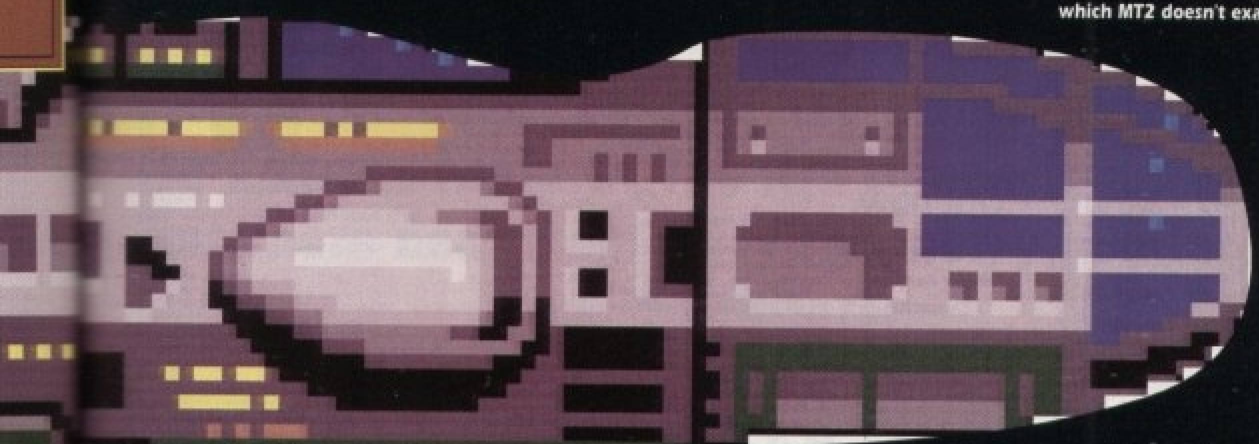
VISION
Some nice touches and the odd dodgy anim, but not as good as the original game.

AUDIO
No more or less than the average sci-fi RPG needs. Nice screams when someone dies, though.

PLAYABILITY
Involved gameplay is sometimes marred by what can be a clunky user interface.

ADDICTION
For RPG lovers, the only thing more addictive than MT2 comes in a syringe and is highly illegal.

85%


Hippies on the starboard bow...

TRAVELLER 2

ENTERTAINMENT INTERNATIONAL • £29.99 • 1 meg • Mouse/keyboard • Out now

(then shoot them and pawn their possessions). Conversations remain a little one-sided (a bit like interacting with a vending machine), but that's to be expected with a computer RPG.

Combat is the one major gameplay element which has changed drastically. The original game gave the player very close control of each member of the group, which could be a bit of a drag during a long fight.

In MT2, you simply tell the group to react to any situation, and when a thug starts firing on you they start firing back without waiting for the order (unlike police marksmen).

Reactions can be a bit OTT, however. I was trucking along in a grav vehicle in one city when a couple of local thugs starting firing at us.

They had no price on their heads and were therefore not worth killing, so I just swerved round a corner and headed off to the bar where I was told an expert on the ancient sites could be found.

As soon as I stopped the motor and opened the door, though, my bunch of loonies decided to react, and charged off across four city blocks in search of the thugs.

In the resulting firefight, the doc was killed, and as he had been carrying a large part of the loot from a lucrative little business arrangement we'd just gone to a lot of trouble to set up, I was understandably a little miffed.

The PAL system is a second major improvement in gameplay. Whereas in the original game the player was forced to keep checking character skills to figure out who was best at what, the PAL system means that characters volunteer to lead the party when going into a situation demanding a particular skill. This means that if one of your characters is good at gambling, he'll shoulder his way past you and swagger into the lead when approaching a casino.



It also means that when you get in your spaceship, everyone scuttles off to the position they're best suited for, saving a lot of messing about.

You can turn both PAL and react off, but this is recommended only for intensely dull people who enjoy doing the same thing over and over again.

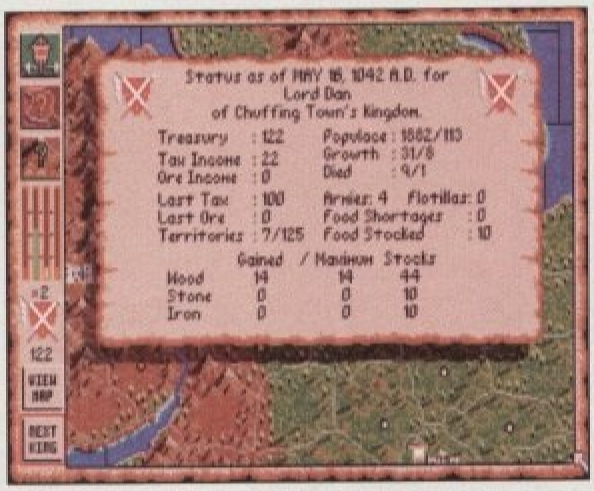
Overall, the sheer size of MT2 is a little daunting. There are over 100 planets available to land on, though some don't have cities on them, 40 wanted criminals for the bounty-hunting player to practice murder on, hundreds of named individual NPCs, many of whom are vital to the plot, and absolutely no risk whatsoever of bumping into Jimmy Hill.

Set this against a sinister river of green slime, a planet threatened with destruction, and a plot that thickens like porridge on a window sill in January, and you've got a computer RPG to keep you going for months.

Stevie



In Victorian times, come supper-time, the family would gather around the piano and sing hymns



Early automobiles required a man to carry a red flag in front of them, to warn pedestrians



The American Indians believe that everything has its own spirit, even digital watches

With a yo ho ho and a ruddy big axe, here come the...

VIKINGS

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VISION

Nice map and, well, nothing else at all. Just a map really.

AUDIO

Weedy tune at the beginning, and a raspy farty noise for the icons.

PLAYABILITY

Very friendly to play, and quite intriguing to begin with.

ADDICTION

However, the lack of depth will leave most players disappointed.

70%

When you think of games about Vikings, you tend to conjure up images of violence. Lots of violence. Big hairy men chopping people up type violence. Innocent farm animals fleeing in mortal terror sort of violence.

And that's 'cos the Vikings feature at number 49 in the List of All Time Really Nasty Crimes Against Humanity. Fiftieth is the man who said "of course you can have 400 billion pounds, go and make another Genesis album".

It may come as a bit of a turnip then, to find that Vikings – Fields of Conquest [to give it its full title] doesn't actually dwell too heavily on chopping people up.

There's a wee bit of chopping involved, but it's surrounded by strategy and stuff. Which is a bit alarming really. You might just as well call the game Birkenhead OAP's Crown Green Bowling, and use the Vikings idea in something more violent.

But, to be fair, this game actually puts you in the place of an olden days lord, and asks you to build up your kingdom and repel the scummy Viking hordes.

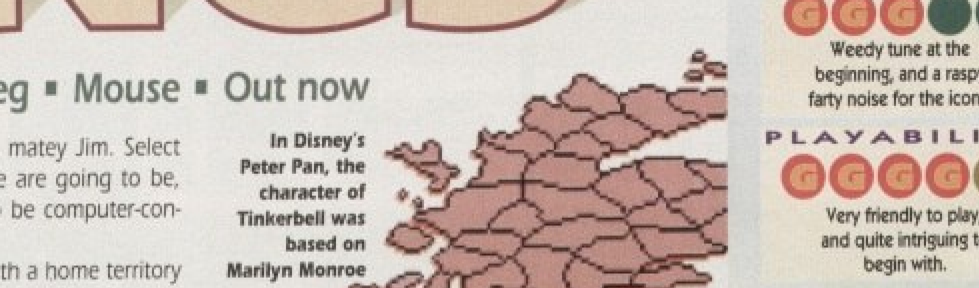
However, as history has shown, it doesn't work and the Vikings invade. Or do they? That's up to you, matey Jim. Select how many players there are going to be, and which are going to be computer-controlled Vikings.

Right, you start off with a home territory with your castle and armies in, and the adjacent territories are yours as well. Free. No extra cost, guv.

Now, as with most war games, you play by turns. During each turn you can keep your people fed, raise more armies, mine each territory for raw materials, move armies into new territories and start work on new strongholds.

At the end of each turn, and providing your armies have invaded a new territory, you enter the combat section. If it's a "blank" territory then you just have to duff up a few peasants to claim it, but if it's a rival territory then a slightly more tricky hullabaloo is in order.

If they run out of men before you, then the territory is added to your kingdom and you can then reap taxes from it, mine it and park your car in the city centre on a Sunday.



In Disney's Peter Pan, the character of Tinkerbell was based on Marilyn Monroe

Righty ho, criticism time. First of all, my infamous "grumpy bobble hat" for the bad points. Hrrmph. The whole game is run via the usual clickety icons and information boxes. And, well, I found it all a bit boring.

Not very, very boring, but after about an hour of going through the same routine every turn, my attention started to wander. I just didn't feel too gutted when I had to reach for the off switch to write the review.

Plus, given the aforementioned violence quota of Vikings and the olden days in general, the combat is a bit limp. You just watch two gauges, representing your army and the enemy, and see which one reaches the bottom first. Not terribly inspiring.

And now, my "comfy slippers" for the good points. It looks very nice, not counting the Commodore 64 loading screen that seems to have slipped in there. A nice "mappy" looking map and, er, not a lot else really, but the map does look nice.

It's also easy to get into. This may mean that seasoned war gamers tire of it fairly quickly, but for those who just want to dabble then it's just about right.

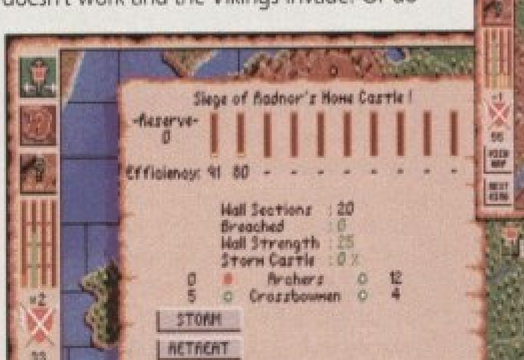
There are some hidden depths, but they're neither deep or very well hidden. So they're not really hidden depths are they? But you can quite happily fiddle around for a half hour or so, before you start to realise you've seen everything there is to see.

Basically, Vikings is a fairly inoffensive game. It's well thought out, and well implemented, but it leaves you with a hollow feeling. Not bad as a sorbet to clear the palette but hardly a three course meal, to use a seriously crap metaphor. Too limited I'm afraid.

Daniel



Elton John's real name is Reg Dwight, and he has a handsome head of hair that is all his own



This has been an "Educational Caption" production

NEXT MONTH IN GAMER

ZOOL

He's neat! He's nifty! He's been nibbled around the edges by specially trained puffins! He's Zool - Ninja Of The Nth Dimension. And he's here next month! Fly the merry bunting from the rafters!



LOTUS III

It's back! It's bad! It's been baked slowly on gas mark 4! It's Lotus III The Final Challenge - and it's here next month!

The Gamer guide to MONKEY ISLAND 2



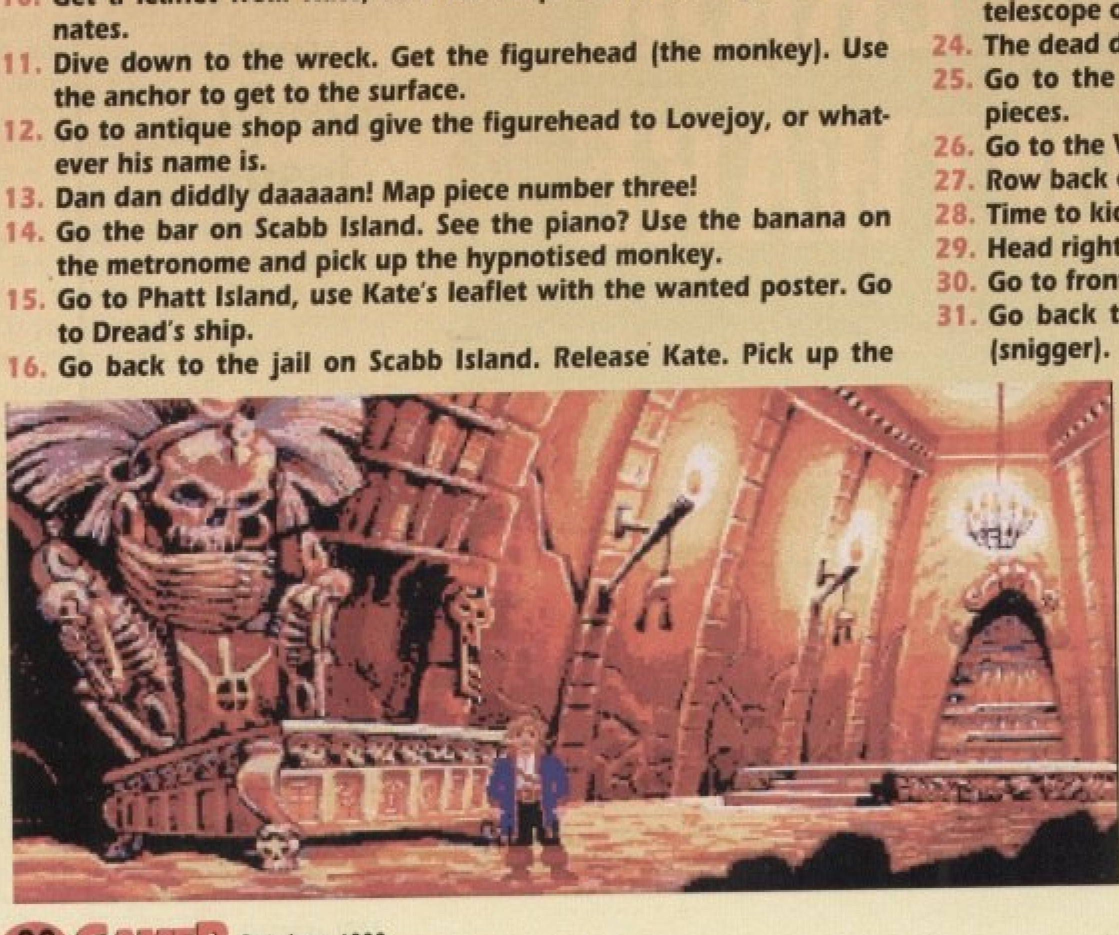
Part 2

cheat mode

OK, you can start breathing again now. The saga continues – with able-bodied assistance from Mr M Farthing, we can now guide you to the end of Guybrush's daring adventure.

He insists that we must, however, also thank Mr Andrew Winter without whom none of this would be possible 'cos he was Mr Farthing's co-pilot (or should that be co-pirate?) in this epic venture. So, without further ado, let's complete Monkey Island 2...

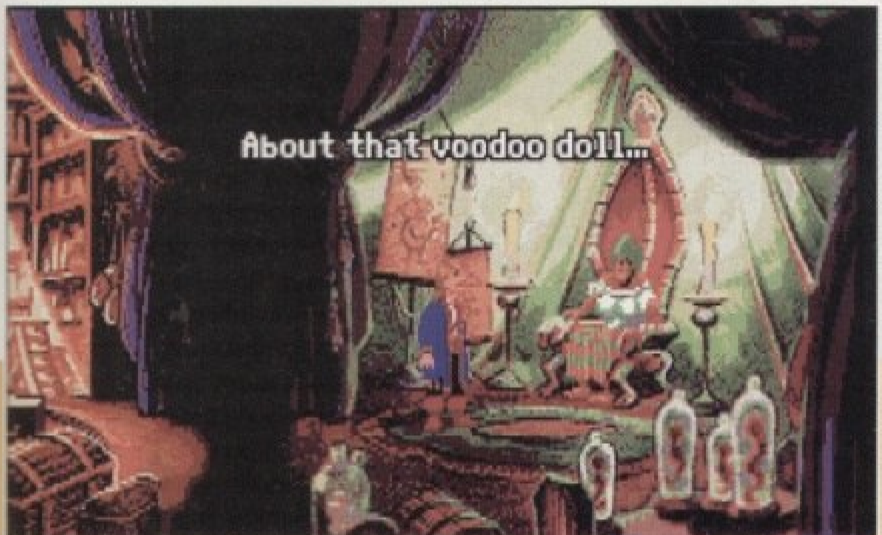
1. Go to the bar on Scabb Island. Ask for a drink. Use library card as ID.
2. Buy Yellow Beard's Baby and Blue Whale.
3. Go to the antique shop on Booty Island. Buy the ship's horn.
4. Go to the Spitting Contest. Enter contest. Use horn. When judge leaves, pick up the marker flags.
5. Use the two drinks with each other, use straw with new drink
6. Enter contest again, spit when wind is blowing eastwards (watch the lady's scarf!).
7. The Winnaaaaah!
8. Go to antique shop and sell the plaque.
9. Read your "Great Shipwreck" book and remember co-ordinates.
10. Get a leaflet from Kate, hire her ship. Select the right co-ordinates.
11. Dive down to the wreck. Get the figurehead (the monkey). Use the anchor to get to the surface.
12. Go to antique shop and give the figurehead to Lovejoy, or whatever his name is.
13. Dan dan diddly daaaaan! Map piece number three!
14. Go the bar on Scabb Island. See the piano? Use the banana on the metronome and pick up the hypnotised monkey.
15. Go to Phatt Island, use Kate's leaflet with the wanted poster. Go to Dread's ship.
16. Go back to the jail on Scabb Island. Release Kate. Pick up the envelope on the shelves and open it.
17. Go back to Lovejoy and buy his "Beware of the parrot" sign.
18. Use the bag of parrot food on the hook left by the sign. Buy the mirror.
19. Go to the waterfall on Phatt Island. Follow the path to the top. Use Jojo the monkey on the pump.
20. Go to the waterfall again and go into the hole.
21. Go to the cottage. Enter drinking contest. Empty your drink on the tree. Use "near grog" on your mug.
22. Erm. I'm not sure we've mentioned "near grog" before but you get it from the Bloody Lip Bar if you can't prove your age. I think. Or you may already have it. Experiment a little, OK?
23. Use mirror with mirror frame. Open shutters. Go outside. Use telescope on statue. Go back in and push the burned brick.
24. The dead dude should have the final map piece.
25. Go to the map-makers on Scabb Island and give him the map pieces.
26. Go to the VooDoo lady. Open the bag she gives you.
27. Row back out of the swamp. Open crate. Use the crate.
28. Time to kick some zombie pirate ass!
29. Head right and up the passage into the room with all the signs.
30. Go to front right passage and speak to Wally.
31. Go back to the room of signs and take the left back passage (snigger).



32. You will be greeted with a number of carvings. The head bone's connected to the... you did pay attention during the dream sequence, didn't you?
33. Well all right then, to get through the maze follow this pattern – go through the doors with these carvings next to them. "Feet, hip, arm". Then "rib, feet, hip". And finally "head, rib, feet."
34. You should be at a large door. Push the little doggy door and go through.
35. Make sure you take the matches out of the Ju... bag.
36. Get the key and promptly get captured by LeChuck. Boo, hiss and so on.
37. Use the straw with your magic spit drink. Spit at the pan in front of you. Spit at the shield to the









right. Spit at it again. The candle should go out.
38. Use the matches. All together, in your best Harry Enfield voice "Now I don't believe you wanted to do that, did you?"
39. Er, except you did want to do that actually, but you see what I mean.
40. Pick up the bottle in the ocean. Pick up the Martini glass. Use the glass in the ocean and then use it on the machine.
41. Pick up crowbar. Open barrel and give cracker to parrot.
42. Head into the jungle. Left at the first junction. Keep going until you find a hanging bag. Use bottle on tree. Use broken bottle on bag.
43. Pick up box. Use glass of water on box.
44. Head on back to the first junction and take the right-hand exit. Use crowbar on chest. Pick up dynamite.
45. Head due east to the dinosaur. Give cracker to parrot. Follow his directions. Give last cracker to parrot when you reach the stones.
46. Actually, if you wander around the jungle you can find a payphone for some comedy interludes. Just thought I'd mention that.
47. Use shovel on X. Use matches with dynamite. Use dynamite on hole.
48. Use crowbar with rope. Use your rope/crowbar on the metal rods. And isn't this where we came in at the start?
49. In the dark again. Look around with the cursor for a light switch. Turn it on.
50. Right. The Final Conflict. LeChuck will chase you into various rooms. Here's a list of what to do in which room.
51. The First Aid Room. Get Dad's skull. Open trashcan. Get gloves. Open drawer. Get syringe.
52. The Box Room. Open doll box. Get doll. Open balloon box. Get balloon.
53. In Workshop. Use gloves and balloon on helium gas. Operate coin return on Grog machine. Wait for LeChuck. When he bends down to pick up the coin, grab his pants and "melvin" him. Like in Bill and Ted's Bogus Journey.
54. In the Lift. You'll need the helium-filled gloves and balloon. Push the lever when LeChuck arrives. Pick up his beard.
55. Any room at all, once you've done all that stuff. You'll have to work fast but you get as many attempts as you need. Give LeChuck the hanky when he arrives.
56. Now use the skull, snotty hanky, underpants, and beard in the VooDoo Juju bag. Use the doll with the bag.
57. Presto! A LeChuck VooDoo doll! It's payback time...
58. Use the syringe on the doll when LeChuck's in the same room.
59. Follow him when he runs away. Pull his leg off in spite.
60. And now, sit back and be amazed as the Secret of Monkey Island is revealed at long last...

THE END





Anyone for tennis or painful root canal?

Tennis Cup 2

LORICIEL ▪ £25.99 ▪ ½ meg ▪ Joystick ▪ Out now

Put your hands together ladies and gentlemen, it's another French game. This time it's awful beyond your wildest nightmares. Thankfully it isn't following the recent trend in French games, which is to have a completely ridiculous story line.

I was half expecting this to be a spy thriller shoot-'em-up strategy game where your tennis opponent was actually the evil Phlegm who is about to destroy the world with his deadly Atom Tennis Ball.

OK, let's look at the game in our usual objective style. For starters it's a tennis game which more or less condemns it instantly, but being the least playable game I've come across to date kills it completely.

You can play in one or two-player mode. I played on the one-player mode because no-one else would take part in this feast of fun with me. The view of the court is from a high perspective behind your player so you are actually getting a frontal view of the opposition

Where this game fails is the gameplay – there isn't any. It wouldn't be so bad if the game was actually hard to play, but all you need to use is the Fire button.

If you don't move your player when the opposition serves or returns a shot the computer will automatically put you in the right position. You are actually free to move, but why bother? If you move around, you're bound to miss the ball.

This lack of movement means the game has less playability than the old console tennis games – at least then you had to chase the ball.

As ever, the computer opponent is far too good – I gave up rather rapidly after losing every match 6-0. Occasionally he might hit the net but after a while he just wears you down.

Graphically the game is up to quite a good standard. The players move quite smoothly and various sequences leading into the game are quite well done.

The most amusing bit of the game is the opening sequence where both of the players walk on and are clapped by the crowd. As the players appear, the crowd goes into convulsions. Instead of the usual naff clapping and jumping they seem to vibrate left to right with alarming speed.

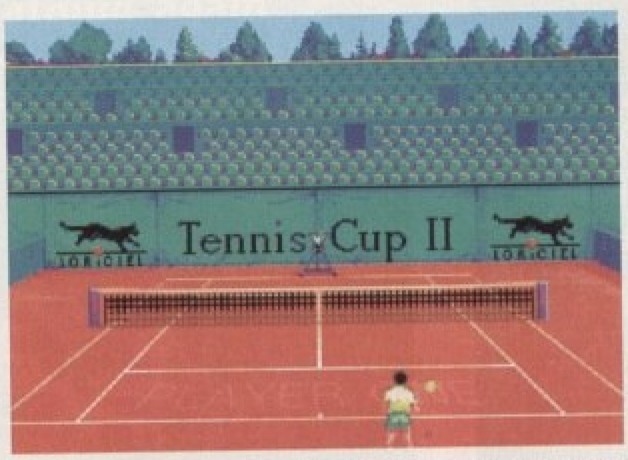
Next on the giggle list is the soundtrack. When either opponent scores a point, the umpire announces the score – 15/40 and so on – but remember it's a French game, so it's done with a really dodgy accent.

Every time I hear it I get this image of the umpire sitting there with a string of onions around his neck and a beret on.

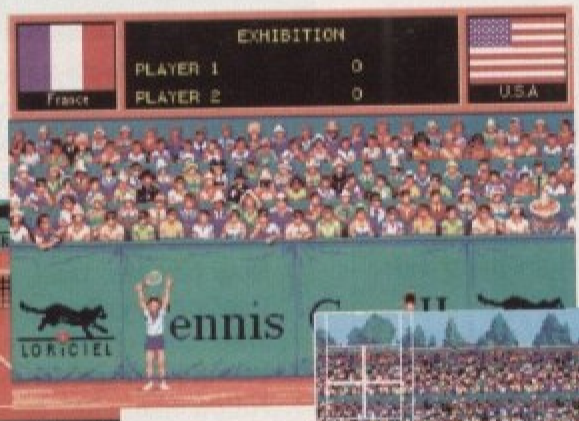
It has a demo mode which lets you view a game between famous tennis stars which funnily enough look identical to your character. Like any demo on any game, it's only appealing the first time around, if that.

What can I say? It's awful. I can't even see hardcore tennis game fans, if such a thing exists, enjoying this for more that a couple of goes.

Ben



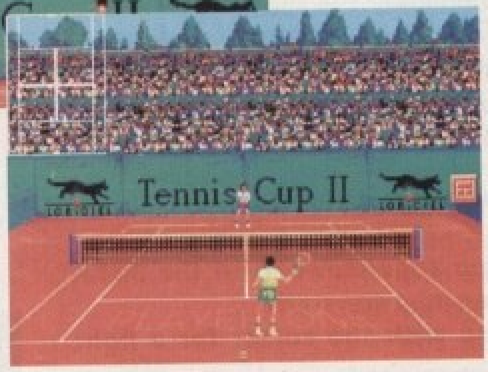
What an unfortunate opponent you have



Check out the guy in the middle of the front row – interested, eh?



And just to confuse you more...



I think you missed it, sir

VISION

Fair to middle typical French graphics.

AUDIO

Cracking good laugh.

PLAYABILITY

Buy the old Binatone tennis game – better value, better game.

ADDICTION

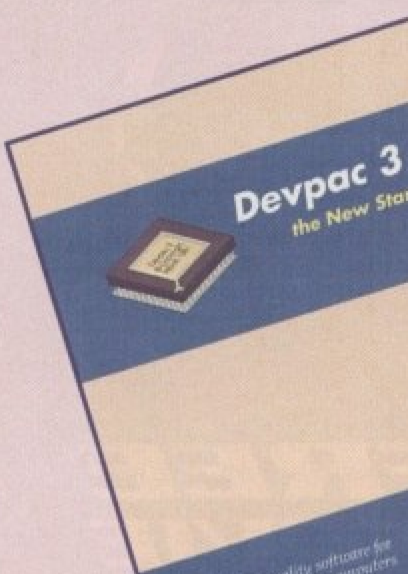
A definite "oh, sod it" game.

37%





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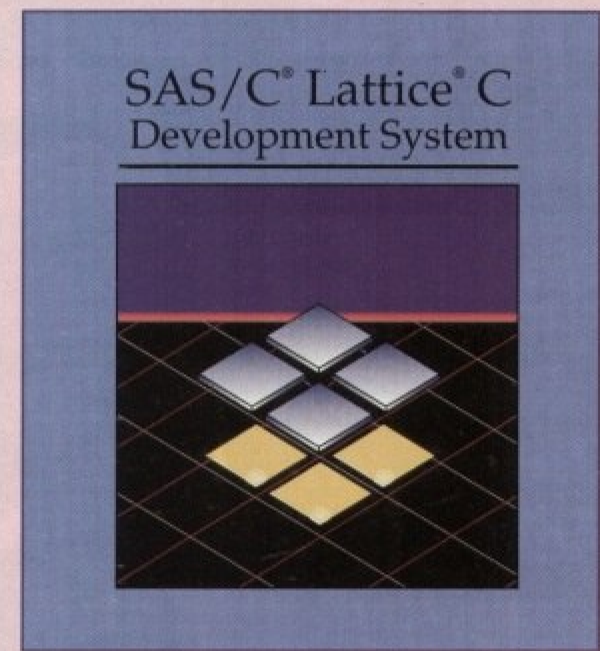


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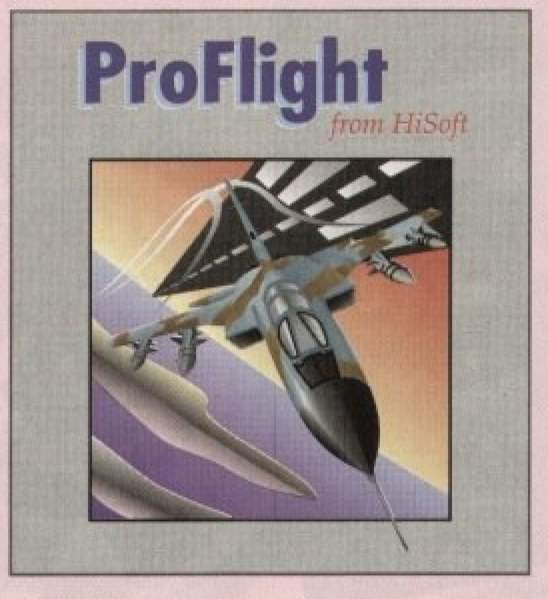
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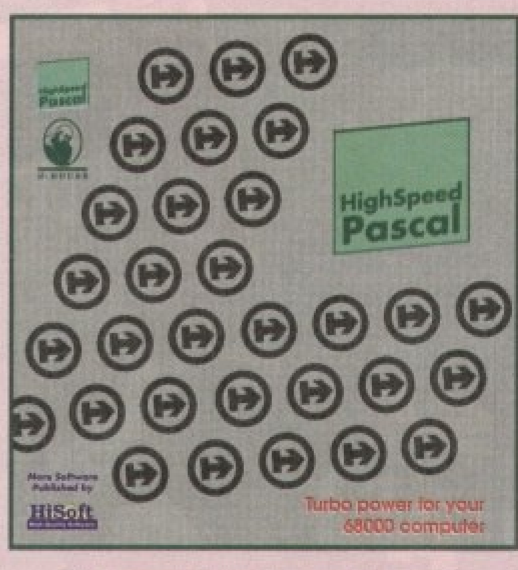


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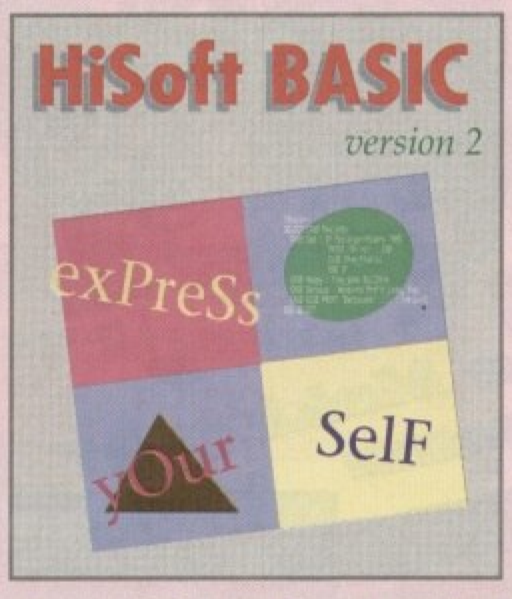
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amiga almanac

Real prog

Having completed our introductory overview of ARexx, we have now seen most of its impressive features as a command language, as well as its super-practical parsing and string-processing facilities.

However, to use ARexx as a "real" programming language we are going to need quite a bit more than this. Essentially, we are going to need a method of accessing blocks of data in the computer's memory as efficiently as possible, both for reading and for writing. This will enable us to do two things:

1. Manipulate large blocks of data faster than we could if we were handling the data as variables.
2. Declare and use blocks of memory as "structures" that mean something to the operating system. Examples of this are windows, graphic bitmaps, menu and requester structures and so on.

Further, by using the memory addresses of these structures, we will be able to pass them to functions as parameters. In this way we can use the functions available in the libraries of the Amiga O/S.

We will also be able to read known structures already in memory in order to get useful information.

Direct access of memory is fairly easy with ARexx, certainly no more difficult than with Basic. Nevertheless, this added power does bring added responsibility, and there are things to watch out for. The easiest way to crash the machine is to overwrite a sensitive area of the memory.

Our next few articles will focus on real-life application programming using ARexx, both for interprocess communication and for managing the system, including control of hardware devices.

Let's start by seeing how ARexx can access the computer's memory. There are two ways of doing this. The first is by using the built-in functions IMPORT() and EXPORT() – which correspond roughly to Basic's PEEK() and POKE() – as well as STORAGE(), GETSPACE() and FREESPACE().

The second way is by using functions provided by special function libraries, notably rexxsupport.library, which is supplied with ARexx.

The main difference between these two methods is that memory allocated with the built-in functions is managed by the system, and is automatically freed up when the program exits.

Memory allocated by library functions must be managed by the programmer, and will not be freed automatically. In some cases this can be useful. The function GETSPACE(size) will reserve a block of memory of the given size in bytes. It will return a four-byte string which will be the hex address of the first byte.

Note that if you want to read this address, you will have to convert it to a decimal or literal hex format using the C2D() or C2X() functions, eg:

```
space_address = GETSPACE(100) ; say
C2D(space_address)
```

You do not have to free this memory with FREESPACE(address) unless you want to use it for something else. When your program exits it will be freed automatically.

In order to write something to our block of memory we use the EXPORT(address,string,length) function. We can use the address obtained from GETSPACE(). The length parameter is optional, and specifies the maximum number of bytes to be written.

If you are inexperienced, it is a good idea to use it. This way you will ensure that you do not write over more memory than you mean to.

The function returns the number of bytes written. STORAGE() is very similar to EXPORT(), except that it returns the previous value of the memory. This can be used to restore it, if necessary.

Finally, to read a block of memory, we use the IMPORT(address,length) function. Again the length parameter is optional and not necessary when dealing with character strings that do not contain null bytes.

However, if there are null bytes, it must be used,

The ARexx Library

Calling all ARexx programmers...

If you've recently written an ARexx masterpiece and want the world to know about it, send it in to *AC*. Continuing to support ARexx is a high priority and as a result we are opening the *AC* ARexx Library.

This new source of ARexx software will be redistributed free of charge on the *AC* CoverDisk every month.

If you want to play your part in the ARexx explosion, send your scripts and additional programs to: *AC ARexx Library, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP*

The ANSI escape codes

Here are the main codes in brief:

Style:	0 – plain	1 – bold	3 – italic	4 – underline
Foreground	30 – colour0	31 – colour1	32 – colour3	33 – colour4
Background	40 – colour0	41 – colour1	42 – colour3	43 – colour4

ramming in ARexx

Alex Gian on how to turn the theory into practice

since a null byte marks the end of a string. Here is a little script that illustrates all the above cycle:

```
/* Writing to memory */
our_space = GetSpace(100)
call Export(our_space,"This language is a")
previous = Storage(our_space,"very, very fine
language")
current = Import(our_space)
say previous current
call FreeSpace(our_space,100)
/* The following line will now show nothing */
say Import(our_space)
```

The above is merely an outline of these functions – there is quite a bit more to them. You should also be aware that if you convert a typical Amiga memory address from a decimal or hex form back into a string, (using D2C() or X2C()), you will end up with a three byte string for all addresses less than 0xFFFFFF or 16M.

This will not be acceptable to the built-in memory functions, so you will have to pad it to the left with a 0x00 byte! We will look at the best way to do this in the future.

Direct writing to memory is a feature of ARexx not present in other REXX implementations. It allows ARexx to exceed the boundaries of a script language, and become an excellent prototyping tool.

However, as yet we have not dealt with any examples of what you can write to memory. So, if you are not quite sure of what you are doing, do not go EXPORTing data into memory... not unless you enjoy looking at the Red Flasher.

If you are using an eight-colour Workbench, the numbering continues. Remember that the console will remain set to the values you give it, even after you exit your program.

You may even want to do this intentionally. If you just use '9b'xll'0m' the console will be reset to its default settings. Here is an example to illustrate this:

```
/* Writing to the console in ARexx */
bold      = '9b'x||'1;31;40m'
colourful = '9b'x||'0;32;43m'
invisible = '9b'x||'0;30;40m'
reset     = '9b'x||'0m'

/* What is PULLed will be invisible */
options prompt invisible

open(my_shell,'*','write')
writech(my_shell,bold'enter password :-')
parse pull password
writech(my_shell,reset'your password is
'colourful||password)

/* Reset and add a new line */
writeln(my_shell,reset)
close(my_shell)
```

The escape codes can also be used normally with the SAY command. There are many more things you can do with ANSI codes, but we won't go into detail here, as the subject belongs more to the domain of AmigaDOS – if you're interested, refer to the full ANSI escape code documentation.

A second interesting feature that links ARexx and AmigaDOS are the PUSH and QUEUE instructions.

ARexx maintains a read queue, from which its input is PULLed. Normally, this is the Shell from which it was launched. Using the above two instructions, it is possible for the user to place items on the read queue for subsequent use. So if you place an item in the read queue, and subsequently issue the PULL instruction, you will not be prompted for input, but the item in the queue will be used instead!

The difference between QUEUE and PUSH is that items placed on the stack using QUEUE will be used as input in the order in which they were "queued". Conversely when PUSH is used, the items on the stack serve as input on a first-in last-out basis.

Any items that are still in the read queue, ie that have not been used when the ARexx program exits, are then passed to the Shell, which attempts to execute them as commands. This is an alternative way to give commands to the Shell, especially if it needs to happen after the ARexx program has exited. It can also be used to set up a stack to defer the use of input until the appropriate time.

This could also have been achieved using variables or compound symbols, but then ARexx offers many different ways to do things.

Note that the PUSH and QUEUE instructions only work with devices that support the ACTION_STACK parameter. The Amiga Shell works fine, and so does the ConMan console, since it was written by Bill Hawes, the author of ARexx, but you might find that some other third-party shells have problems with them.

Interprocess communication

In addition to linking external programs together, one of the most important functions of ARexx is to communicate with the AmigaDOS process (CLI or Shell) that launched it.

Ultimately it is AmigaDOS that handles all the system input and output, eg writing to the console, getting user input, opening and closing files etc, so ARexx must dovetail efficiently with it, if it is to be as effective as AmigaDOS.

It is often much more convenient to use ARexx macros than AmigaDOS scripts, especially when calculation or logic is involved. All of AmigaDOS is available to ARexx, using the ADDRESS COMMAND instruction (as seen way back in our first article).

Superior control is also provided over other features, including writing directly to files – we will see some interesting examples below.

First of all, input and output to the screen. So far, we have considered only one way to write to the screen, or get keyboard input from the user, using the standard SAY and PULL commands.

Under AmigaDOS, the console window that you are working from, your CLI or Shell, is a device that can be opened and closed, read from and written to, just like a file.

You will recall that you open a file for writing under ARexx using the function OPEN(lfh,'filename','write'). This is very similar to the way it is done in Basic and many other languages. "lfh" is the file handle that you will use subsequently for writing to the file; "filename" is the actual AmigaDOS filename and can include the complete path to the file, e.g. Ram:MyDir/TempFile.

The same goes for reading a file, except of course, that "write" is replaced by "read". If you subsequently want to write to the file, you will use one of the WRITECH(lfh,string) or WRITELN(lfh,string) functions.

The difference between these two functions is that WRITELN() automatically starts on a new line (as does READLN()). When finished with the file, you close it with the CLOSE(lfh) function.

Now under AmigaDOS, the console has a special name – it is called *. This harks back to old days, when AmigaDOS was written in a dated language called BCPL, but the convention was established and it still works fine under AmigaDOS 2.0, which is written in C. Here is the command that will open the console for writing:

```
OPEN(my_shell,'*','write')
```

"my_shell" is now the file handle that you have given to the console where you are working, and anything that you write to "my_shell" will appear on it. For instance, if you subsequently have a program line:

```
WRITELN(my_shell,'Noble Words')
```

it will have exactly the same effect as SAY 'Noble Words' .

Why bother? you might ask. Well, there are two main cases where this might be useful. Firstly, as we have said, you might not want every new string you SAY to start on a new line, but to continue from where the last one stopped.

Of course, in this case you would have to use WRITECH(), and not WRITELN().

Another case where you might find it useful is when you want to set the so-called ANSI "escape codes" for the style. Among other things, these codes allow you to set the background and foreground colours, as well as the writing style (plain, bold, italic or underlined). The general format of the string that specifies them is:

```
'9b'x||' style; foreground ; backgroundm'
```

For those interested in the technicalities, '9b'x is the ESC code '1b'x with the high bit set.

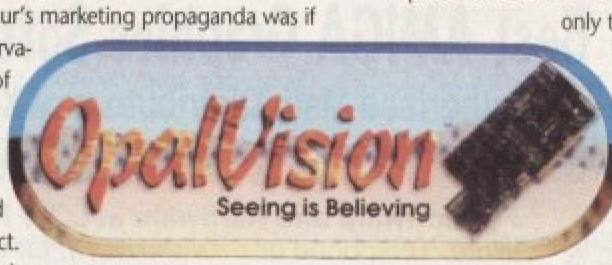
Toaster gets grilled

After a long wait a Toaster roaster is finally on its way. Paul Austin takes a look

If like me, you're thoroughly sick of countless Amiga journalists waffling on about the Video Toaster – a product which will never appear in PAL form – the following article will be music to your eyes.

At a recent Amiga spectacular in Sydney, Centaur Development unveiled Opal Vision, a product that's being marketed as the complete 24-bit graphics and video solution.

Such grandiose claims often end in disappointment but according to numerous astonished bystanders, Centaur's marketing propaganda was if anything a conservative statement of fact rather than the usual blatant hyperbole all too often associated with a new product.



At the heart of the system lies the now industry standard 24-bit, 16.7 million colour, double buffered display card. Like Avideo, the card has the option to display Amiga graphics either in front of or behind the 24-bit display. As you might expect the board can supply imagery in any standard Amiga resolution, stretching right up to 768x 580.

Again in a similar vein to Avideo, Opal offers an alternative animation mode of 15-bit in med and hi-res and 8-bit double buffered output in all resolutions.

The board also boasts an on-board VLSI Microcode graphics processor which allows resolution changes, stencil modes, an impressive array of transition effects and, perhaps most important of all, smooth scrolling between screens.

On top of all that, the board's "palette mapped" design allows real-time screen updates rather than the infuriating staggered approach used by other systems. It's even possible to fade full 24-bit images in and out in real-time.

Another big plus is the board's generic design allowing the installation of either an internal or external unit compatible with the entire Amiga range.

Both internal and external variants come with 1.5Mb of display RAM as standard which automatically configures to either PAL or NTSC.

Impressive as the standard board may sound, it's only the beginning of the Opal system.

Thanks to a unique modular design, a whole family of hardware enhancements can be slotted directly into the board. For the general purpose user who wants to round off the board's artistic potential, the OpalVision frame grabber/genlock module is perhaps the most important initial investment. Like all the OpalVision add-ons, the unit plugs directly into the motherboard and requires no additional wiring or power.

Broadcast quality

Once entrenched, the grabber/genlock combination acts as a composite decoder, composite encoder, 256-level linear keyer – with alpha channel output – and a live video effects processor.

Outputs include broadcast quality-S-VHS or Hi8 and composite. The whole thing is controlled via the Sony broadcast camera chipset.

Like the amazing Vlab frame grabber, instant freeze frame and multiple grabs are possible as full 24-bit images. And again like Vlab all grabbing can be done from a live video source – no pausing required.

Genlocking is equally well catered for with a 256-level transparency overlay via the alpha channel for both OpalVision and Amiga images. As a result, live video can be displayed through transparent or semi-transparent areas of the screen.

Like Progressive's video blender, all functions are controlled via software including fading, source switching, and keying.

Another modular addition is the OpalVision Scan-rate converter which allows output on multisync monitors providing rock solid flicker free display.

Next comes the OpalVision Quad-input production switcher which plugs directly into the frame grabber/genlock allowing software switching between two video sources via cuts, dissolves and wipes between any of the four input sources – videos A and B, Amiga graphics and Opal images.

As you might expect, each video source can accept S-VHS, Hi8, and composite, with available output for both composite and S-VHS.

Real-time processing

Finally and perhaps most important of all comes the "OpalVision Roaster Chip" which adds the Toaster-style features to the board. Once installed, the chip allows real-time processing and morphing of live video, OpalVision images and standard Amiga graphics.

As a result you can take a live video source, flip it, scale it, wrap it to a sphere or even wave it like a flag. Perform page turns to reveal secondary source images. In short we're talking a limitless supply of real-time digital video effects.

Other sweeteners include IV24-style picture in picture display, which in Opal's case is done in true 24-bit as opposed to the 12-bit of the IV while also boasting zoom and scroll options as well as scalable window size. As is the case with all Opal's features, the effects are controlled and synchronised via software which includes an expandable selection of wipes fades and wraps.

Well if the specs and first hand impressions come even remotely close to the finished product, the ultimate video tool has finally arrived.

As soon as the system makes the long trip from Sydney, you can rest assured that AC will be the first to bring you the definitive review of this revolutionary release.

Software spectacular

Unlike the majority of display boards, Opal comes with an impressive selection of additional software. Obviously the first priority of any display system has to be its accompanying paint package.

Here again the package scores high with a real "TVpaint" challenger which appears not only to match the 24-bit master for features but also boasts an array of image processing options that make even such illustrious names as ADPro and ImageMaster sit up and take notice.

Alongside the paint package, Opal also offers "Opal Presents" which as the name suggests is a Scala-style 24-bit presentation package which takes full advantage of the board's scrolling features, allowing the combination of live video and Amiga graphics when combined with Opal's optional frame grabber/genlock.

Like Scala, the software offers a variety of wipes, fades and scrolls taking full advantage of the board's double buffering while employing intelligent image pre-loading and virtual memory options to minimise delay between transitions.

And in classic Scala style, all effects can be triggered either by mouse, timer or more unusually ARexx.

Next in the software parade comes the "OpalVision HotKey" system which like Avideo's Opera software allows the display of Opal Vision images at any time and in conjunction with existing Amiga software.

With a simply key stroke, either of the two Opal screens can be instantly controlled, including genlocking, priority masks and instant 24-bit backdrops for standard Amiga output.

Lastly we enter the silly section with the release of the world's first 24-bit computer game, namely King of Karate which takes full advantage of Opal's 24-bit backdrop option overlaying standard Amiga graphics in the form of the two combatants and their associated statistics.

Simple sprites

The Amiga's so called "simple sprite" is just as bright as his more complex cousins, and he can move faster! Margaret Stanger investigates our flighty friend

The picture on an Amiga screen is usually "all of a piece", but it can behave as if it were in three independent layers – background, midground and foreground. In dual playfield mode, one playfield can be the background.

The examples on the support disk have a background three bitplanes deep – a stormy landscape with grey green swirling mists in eight colours.

The midground playfield is completely independent. It has some very unlikely looking purple and blue plants and trees. Wherever colour zero is used on this three-bit plane, eight-colour midground playfield, the background playfield shows through.

The foreground is made up of sprites – small graphic elements that can be used completely independently of the playfields.

They are 16 pixels wide, two bitplanes deep, any height, and are normally displayed in front of the playfields. In the example the sprites look like jellyfish in very silly colours.

Back of the queue

The more discerning among you may have realised that these graphics have been nowhere near an artist. I was at the back of the queue when such talents were handed out.

I admit that the Fun School 2 pictures that I use on this page sometimes were created for me by an expert from Database, and adapted for the Amiga.

The custom chips handle screen display, sound generation, disk access and other input and output. Serious programmers can communicate with these tasks when the processor or DMA controller reads or writes some of their registers.

The Copper, or co-processor, can change the contents of some registers at certain screen positions using a Copper list that is stored in memory and executed command by command at the same time as the main processing.

The display instructions and view modes can be set by addressing the registers directly. Last month a single playfield of four bitplanes was displayed.

To allow for two playfields three bitplanes deep, bits 14 and 13 of register BPLCON0 must be set. Bit 10 of BPLCON0 must be set as this is the DUALPF flag. Bits 0 to 6 of register BPLCON2 determine the priority of the playfields with respect to each other and to the sprites.

If bit 6 is set, playfield 2 appears in front of playfield 1. Bits 0 to 2 form a three-bit number which determines the position of playfield 1 with respect to the four sprite pairs.

Bits 3 to 5 determine the position of playfield 2 in a similar way. In this example bits 1 to 2 have the binary value 100 which indicates that all the sprites appear in front of playfield 1; bits 3 to 5 have the same value indicating that the sprites are also in front of playfield 2.

If BPLCON2 is set to zero, the playfields will hide the sprites – it is always worth checking this when debugging!

```
move.l  _AbsExecBase,a6
jsr     _LVOForbid(a6)
;disable task switching
lea     _custom,a5
move.w  #$03a0,dmacon(a5)
;disable copper and bit plane DMA
move.l  CListAddr,cop1lc(a5)
;put copper list address in register
clr.w   copjmp1(a5)
;trigger copper activity
move.w  #$3081,diwstrt(a5)
;set start and finish of display area
move.w  #$30c1,diwstop(a5)
move.w  #$0038,ddfstrt(a5)
;set bit plane start and finish
move.w  #$00d0,ddfstop(a5)
move.w  #$6600,bplcon0(a5)
;six bitplanes, colour display
clr.w   bplcon1(a5)
;no scrolling
move.w  #$24,bplcon2(a5)
;priority- sprites, playfield1, playfield2
clr.w   bpl1mod(a5)
;null modulos
clr.w   bpl2mod(a5)
move.w  #$83e0,dmacon(a5)
;enable copper DMA
```

To create the playfield display, I read the background and midground pictures into two separate bitmap structures using the iffread2.a module twice.



One picture's bitplane addresses were put into the even BPLPT registers and the other picture's into the corresponding odd BPLPT registers.

Each sprite has a data list of data word pairs. The first two words of each sprite's data are control words to initialise the sprite. Bits 15 to 8 of the first control word contain the vertical position of the first line of the sprite, bits 7 to 0 contain the sprite's horizontal start position.

Bits 15 to 8 of the second control word contain the line after the last vertical line of the sprite. Bits 2 to 0 of the second control word contain the most significant bits of the first line, last line and horizontal position respectively.

The last two data words always contain zero. The intervening data words contain the pixel data. The first two sprites use colours 16 to 19, the next two 20 to 23, the next two 24 to 27 and the last two 28 to 31.

The first colour of a sprite is always transparent. A pixel will be the second colour if a bit is set in the first pixel data word, and the corresponding bit in the second pixel data word is clear; the third colour if the bit is clear in the first pixel data word and set in the second; and the fourth colour if both bits are set.

The sprite data is copied into chip memory, and the address of the start of each sprite's data is written into the appropriate SPRPT registers. The routine to do this is very similar to the one used last month to write the BPLPT registers with the bitplane addresses.

Coming soon – simple sprite-handling routines in C and more about sprites for assembler programmers.

The demo program

The demo program on the support disk contains two source modules, sprite.a and iffread2.a, which can be assembled and linked together in the normal way. Iffread2.a is the general purpose picture file reader, and sprite.a is the calling program.

The object module, sprite, clears the screen, by blanking out the colours. The ILBM picture files, with the filenames specified in the calling program, are opened and read. The files are closed, and control goes back to the main program.

The sprite instructions and those for the start of the six bit planes are copied into the copper list in chip memory. The copper DMA is disabled, then enabled again after the new copper list is put in place and triggered.

The pictures from the IFF files are displayed as two separate playfields, with the sprites in the foreground.

The picture is displayed on the screen until the user presses the joystick Fire button, or clicks a mouse button. The old Copper list is brought back, the memory freed, and the program exits.

Speaking in tongues

As cross-format communication becomes more important, Paul Austin reveals how to make Midi files move

Whether you're simply sharing files with a friend or planning a trip to your local studio, the ability to transfer Midi files from one machine to another can be an essential skill.

For the average loyal Amiga fan, the prospect of porting your creations to a lesser machine may seem a bit like swapping a sports car for a push bike, but as strange as it may first sound, file transfer can on occasion have real advantages. However sad and misguided a decision it might be, it's fairly unlikely that you'll find an Amiga at the heart of your local 24-track.

On the whole, professional musos aren't particularly computer literate – which obviously makes the ST a compelling purchase and invariably means that this rather senile piece of silicon is frequently found mumbling away to itself at the centre of countless budget studios.

This being the case, there's no real need to force your Amiga into mixing with the dregs of musical society. In fact, if you've been wise enough to complete your masterpiece prior to booking studio time, all that's required is the sequence on a compatible disk along with any additional hardware – which hopefully may be supplemented by the studio.

Effective

Although it can seem a little unnatural to hear your creations emanating from a PC, ST or Mac, it's often the most effective method of squeezing the very best from any studio session.

Engineers invariably know their studio, sequencer and signal processing setup backwards, and as a result can often speed up the sometimes costly creative process immensely from the comfort of a familiar environment – which unfortunately is rarely that of the Amiga.

For pure convenience we'll assume that all the transfers will be from the Amiga to a destination machine. This is obviously of massive importance to any potential upgrader. If you have a selection of trapped Midi files languishing on an ageing PC, ST or Mac, rest assured that their liberation is at hand. Look at the boxes on this page for more details.

Well I hope this quick lesson in communication will come in handy. Next month I'm planning – God (and postal service) willing – to bring you a review of the long awaited Sunrise direct-to-disk system. See you then.

Amiga to Mac

Amiga to Mac conversion isn't quite as frequent as Amiga to ST , but on occasion it can be a vital, if a little more complex and potentially more expensive.

There are two basic methods of making the change. For the user on a budget, or perhaps for those who only require occasional conversion, a Mac utility entitled Apple File Exchange is the perfect answer.

Like the ST, the Mac cannot recognise Amiga disks directly. As a result, MultiDos once again comes into its own. When your files are safely entrenched on a PC disk they can be imported directly to a Mac and read in via AFE for subsequent translation into the Mac's own file format.

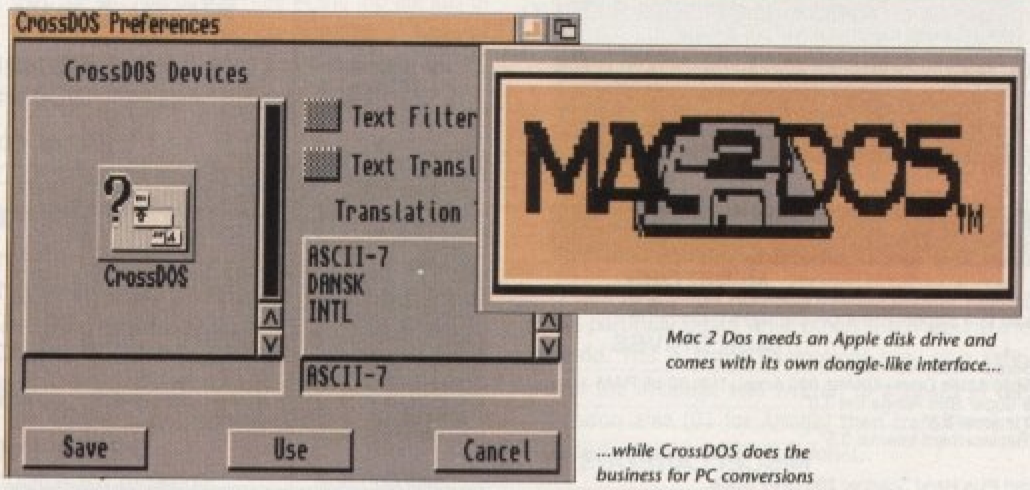
If you're a multimedia type who needs to move large amounts of data such as image files along with Midi information, the rather lengthy AFE process can be a touch painful.

The alternative is to employ direct file conversion with the assistance of additional software and hardware such as Mac-2-Dos and or perhaps the soon to be released Sybil system from Blitsoft. The first of the two takes the form of a file manager and accompanying Amiga to Mac dongle which allows direct connection to an external Mac disk drive. Of course this method means expenditure for both the Mac-2-Dos system and the additional Mac drive. If you're interested contact Silica Shop on 081-309 1111.

On the other hand, if you're willing to wait a few more weeks, Blitsoft will soon be offering an American import entitled Sybil, which will format, read, and write Mac format disks via standard Amiga drives thanks again to an additional dongle.

The obvious attraction is the saving on the external Mac drive and with the dongle and software combination coming in at around the £70 mark it's infinitely cheaper than the Mac-2-Dos system.

If you're interested in the aforesaid hardware and software combination you can contact Blitsoft for more information on 0908 666265.



Mac 2 Dos needs an Apple disk drive and comes with its own dongle-like interface...

...while CrossDOS does the business for PC conversions

Amiga to ST

The key to file transfer between this particular duet is their joint ability to handle PC disks. The ST has this option as standard, while the Amiga won't officially become PC disk compatible until Workbench 2.1 becomes available in the autumn.

Having said that, the public domain has been fit to burst with numerous Amiga to PC conversion utilities for years. If you simply can't wait for the release of WB 2.1 with its built-in CrossDOS option, the perfect alternative would be to invest in a shareware utility entitled MultiDos.

MultiDos is one of the latest and arguably the best conversion utilities around, being both simple to operate and easy to install.

Once the PC device is mounted, your machine instantly becomes capable of formatting, reading and writing standard 720k MS-DOS disks and when the conversion process is complete all the active MS-DOS volumes can be un-mounted with a single command – without even having to reboot the machine.

The PC device becomes a valid AmigaDOS volume and can be recognised by standard directory management utilities such as Sid, Opus, TDM and so on. As a result, even newcomers can move and copy files with complete confidence, avoiding the occasionally complex syntax of the CLI or Shell.

When your files are firmly entrenched on the new disk, all the ST user need do is insert the disk and load the file directly into his or her favourite sequencer. The only restriction within the process is that the disks used must be formatted on either an Amiga or PC.

For some bizarre reason, although STs can read PC disks, they do not format them correctly. As a result it's best to format a disk yourself to avoid potential disasters later on.

If you're interested in obtaining a copy of MultiDOS, dig out the August issue of AC and you'll find the aforementioned utility ready and waiting. If you were buried under a snow drift during the sale of that particular issue you should be able to get a copy though any of the larger PD libraries.

BBSs made simple

Pat Winstanley talks you through a typical bulletin board

When you first log on to a BBS things can rapidly become confusing. There are so many options to choose from it's hard to know where to start. And if you are really new you won't even understand what many of the options mean.

The illustrations below should give you some idea of the range of features offered by a typical general BBS, and how to use them efficiently for everyone's benefit.

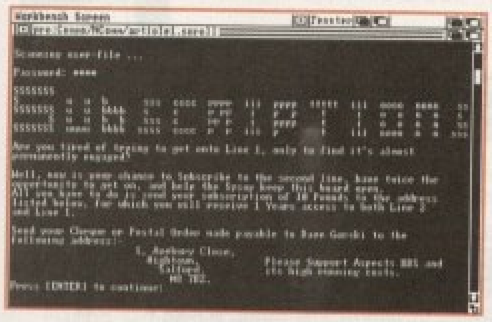
Openscreen

The first thing you see when you connect to Aspects. The logo is intended to be viewed under ANSI but it's faster not to.



Subs

BBSs are run on an amateur basis. A second phone line is very useful for calling at busy times, and subs earn the undying gratitude of your host.



Mailbox

When you register on the system your name is used to identify messages meant for you. Here you can see how popular I am!



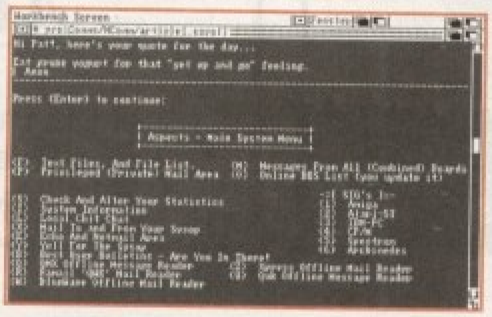
Get in touch

Contact me via netmail as Pat Winstanley at 2:250/107.99 or as peewee@cix. Or write to the magazine address.



Mainmenu

All options are selected by typing a letter. The options at the bottom are doors to offline readers (OLRs) which allow you to read and reply to messages cheaply. Yelling for the sysop does just that. If he's around and not too busy he will type a message which you see directly on-screen..



Newfiles

These new files have been uploaded to the board over the last few days. Those at the top are lists of all the files available. Aspects caters for all types of computer and you'll often find text files for the PC or ST which are useful to Amiga users.



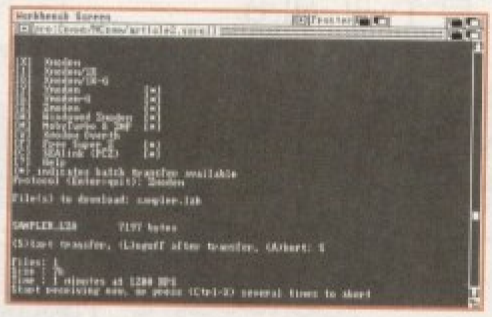
Fileareas

Select an area by typing its number. Now scan the file list and download the files of your choice. Good practice on any BBS is to upload as much as you can in return for files you download.



Download

Choose a file, select a protocol and away you go. Protocol tells the board how to talk to your Amiga. Don't forget to tell your terminal software (eg Ncomm) to use the same settings as you select on the BBS.



Sysop

In the sysop area you can leave messages and find news of local events. Everything revolves around the sysop (Dave Gorski on this board) who will do his best to help if you are having problems. The subject lines give an idea of the range of topics covered.



AC echo

Around 100 areas are catered for – some local to this particular board while others reach around the world. This is *Amiga Computing*'s very own echo and the message was written to a board in the London area (01 for Amiga) then transferred to Aspects (Manchester) via Fidonet.

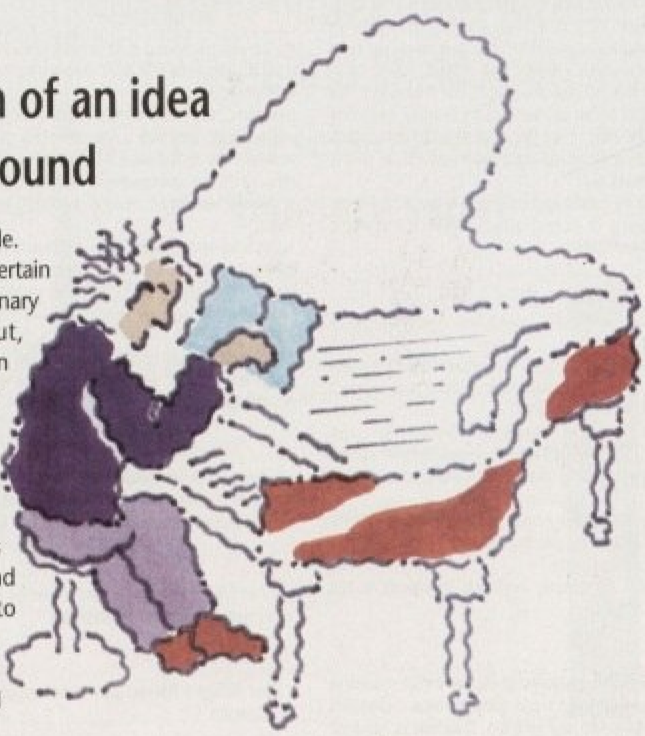


Logoff

End of session is the log-off procedure where you are encouraged to leave a message to the sysop. Most boards also give a list of other fairly local boards for you to try.

Flash in the pan

Phil South has a gem of an idea for improving your sound



One of the key things which distinguishes Amos from other types of Basic is its grip on the Amiga's breathtaking sound playing capability. But then again the whole idea of Amos is the be able to access all the functions of the Amiga rapidly and easily, using one command where previously only a few hundred would do.

The Amiga can grab and play sampled sounds very easily. The sound chip can be used, and samples can be put into a bank for you to use in your own programs. Amos can also play music, like the ABK files on your demo disks. But for now let's talk about samples.

Using sampled sounds is easy, and similar to the use of IFF picture files, in as much as you can load them in off disk as they are or use them from a bank.

You need an Amos program called Sam Maker, and this allows you to load samples and put them together into a bank in memory.

The problem with loading samples from disk is that you have to BLOAD them and specify locations in memory and all that, which is a little bit technical and not to say a touch heavy on memory and resources.

Instantly

It's a far more elegant solution to store them in a bank as they are ready to access at any time during your program, and they are loaded instantly.

Once you have your samples in a bank you can play them back at any speed, which changes the time the sample takes to play and thus the pitch of the sample.

So you can either have samples of speech, snatches of music, or even single notes of an instrument which you can play in a sound/noise/Pro Tracker-type program at different pitches.

Playing samples in Amos is a matter of using the Sam Play command:

```
Sam Play VOICE,SAMPLE,FREQUENCY
```

The voices your sample will use are set by setting a bit in V, like so:

```
%1000 voice 3
%1010 voice 3 and 2
%1111 voices 3, 2, 1 and 0
```

This is all very well documented, but here's an idea for you. The Amiga has four voices, and these are paired to play in either left or right stereo channel. Voices 0 and 3 play through the left speaker and 1 and 2 play through the right.

It struck me the other day that it would be easy to take advantage of this stereo capability and make stereo sounds – true stereo sounds, not just one sound in one ear and another in the other ear like most programs you hear/see.

If you want to pan a sound around in the stereo spectrum you have to alter the volume across the two stereo channels of the same sound. This is called mixing or panning in the trade.

To clarify that, a sound appears in a certain position in the stereo "picture", an imaginary 3D space with a left, right, in and out, depending on how quiet or loud it is in each ear. A noise which is soft in the left ear and loud in the right will appear to come from right of centre in front of the listener.

So in order to simulate stereo panning in an Amiga sound, all you have to do is put the same sound in both speakers and alter the volume of one or the other to move the sound in space!

Let's try this out. Have your Amos_Data disk in one of your drives and run the following program:

```
Screen Open 0,640,256,16,Hires
Hide : Curs Off : Paper 0 : Cls 0
Load "Amos_Data:samples/samples.abk"
```

After all the usual setup, we load in some samples from the Amos Data disk. If you don't have this in the drive it'll prompt you, because I've specified the exact disk name in the Load statement:

```
Sam Loop On
Volume %10,0 : Volume %1,50
```

Then we turn Sam Loop On to make the sound continuous, and so make it easier to hear the stereo panning. Next we set up the initial volumes of the two voices we'll be using, in this case voices 1 and 2, indicated by the binary codes %0010 and %0001.

This sets the volume so that the right channel is silent and the left is set at 50:

```
X=1
Locate ,5 : Pen 4 : Centre "AC brings you *Stereo Panning*"
Locate ,7 : Centre "The sound moves slowly from left to right"
```

Next we have the main program loop. the PANME procedure increments the right and decrements the left at half second intervals until the sound has travelled fully from left to right:

```
Do
   Sam Play %11,3
   PANME
Loop
'
Procedure PANME
   P1=0 : P2=50
   Repeat
      Volume %10,P1 : Volume %1,P2
      Wait 25
      Inc P1 : Dec P2
   Until P1=50
End Proc
```

As they say in all the old Bond movies, crude but effective. If you were very clever you could even have another sound panning the other way too.

Or even, and this is a really nice one, move the sound in stereo according to movements from the joystick, which also moves the sprite that the sound relates to! This would give you a real stereo effect for very little programming.

Simply put, this would involve the use of a simple test for the joystick direction as another procedure at the end of the program, and putting the proc name in the main loop. This routine gives you an idea of what I'm talking about:

```
Screen Open 0,640,256,16,Hires
Hide : Curs Off : Paper 0 : Cls 0
Load "Amos_Data:samples/samples.abk"
Volume %10,25 : Volume %1,25
P1=25 : P2=25
Do
   Sam Play %11,3
   If Jleft(1) Then Inc P1 : Dec P2
   If Jright(1) Then Inc P2 : Dec P1
   If P1...
   If P2.....
   Volume %10,P1 : Volume %1,P2
   Wait 25
   Locate 0,0 : Print P1,P2
Loop
```

Once again it uses the samples from Amos_Data, but this time the sound pans in stereo depending on whether you move the stick left or right. The location of the sound is shown at the top of the screen.

Try that out at home this month, and try to make it faster still if you can. Also, you can add a facility to pan the sound in and out as well as from left to right, and move a sprite at the same time.

And why not send me your designs when you've finished? Send the programs on disk to Stereo Stew, Amos, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Let's start the campaign for more real stereo in Amos game programs (CAMRESTA) and push the boundaries of what is possible with simple tools.

● *Phil South is the author of the book* Mastering Amiga Amos, *due out in the Autumn from Bruce Smith Books.*

KCS Power PC Board

PC Emulation on your Amiga

About...

The KCS Power PC is a complete 11MHz 1Mb PC sub-system that can be fitted to any Amiga in minutes.
Based around NEC's highly successful V30 CPU, the Power PC Board offers a very high degree of compatibility at machine language level, yet runs faster than an equivalent Intel 8086.
The 1Mb of Autoconfig™ memory can be accessed by all current Amiga models including the A500 Plus. Even the original A500 can access 512K as a standard expansion with clock; plus a 512K RAM disk.
Adored by critics and users alike, the KCS Power PC Board is a real alternative to buying a complete PC clone.

Installation

The KCS Power PC board fits to any Amiga in minutes:
• On A500 and A500 Plus machines it simply slides into the trapdoor expansion; and doesn't invalidate your warranty!
• On bigger Amigas, such as the 1500/2000/2500/3000, it drops into a vacant Amiga slot using the custom designed adaptor board.
• Once fitted, your Amiga can be switched into PC mode simply by clicking an icon. Just reset and it's an Amiga again.
No fuss, no hassle. Just two machines in the space of one.

Video

• Supports the majority of EGA and VGA modes in 16 glorious colours and monochrome – graphics up to 640x480 and text too. Interlace is required for some modes but a software flicker fixer is built in.
• Other video modes include MDA and CGA text and graphics. Also supports Tandy colour graphics adaptor and Hercules monochrome.
• EGA and VGA graphics can be displayed on a domestic TV or monitor. Unlike *real* PCs, no extra hardware is required.

Disk

• Up to four Amiga drives can be connected to your system and accessed in PC modes as 3.5" 720K or 5.25" 360K. Typical disk access is at least twice as fast as most real PC clones!
• DOS can be started from any mounted drive 5.25" or 3.5" and most Amiga hard drives.
• Supports most popular hard disks including GVP Impact, Supra and A590 (Omil and SCSI).
• A massive 200K ramdrive (up to 8Mbwith expansion) is available in PC mode and it's PC-reset proof too.

Memory

• Even with a base Amiga 704K is free for DOS programs (640K in EGA and VGA modes).
• EMS (expanded memory) is supported allowing you to run Microsoft Windows without problems and store massive files in Lotus 1-2-3. So, if you have 8Mb on board, the PC can use it.
• XMS (extended memory) is supported – even though this is not usually possible on NEC V30 machines.

Speed

Its Landmark speed puts it way ahead of many true PC systems – it even compares favourably with many AT clones.
However, the crux of the matter lies with the video speed; and this, as many critics have noted is where the KCS Power PC Board scores over all others. It's no use having a wizz-bang processor if the screen takes several seconds to redraw itself.
• Tests in text modes have shown it is several times faster than evenAT clones with dedicated video hardware. Even in graphics modes, it's no slouch although the emulation is limited by Amiga hardware.
• Add a processor accelerator card, andthe 32-bit clean KCS cache software will use it to its full advantage.

Mouse

• Automatic serial mouse emulation is supplied as standard – using your existingAmiga rodent.
• Mouse can be configured as COM1 or COM2.

Joystick

• Up to two sticks can be employed at any time. You decide how they are arranged.

Printer

• Your Amiga's parallel port is accessed as LPT1 in PC mode.

Serial

• DOS usually supports two serial ports, but one is taken by the Amiga mouse. The Amiga's serial can be set as COM1 or COM2 as desired, ie for MODEM etc. up to 19200 baud full-duplex.

Sound

• PC sound is supported, but there's an additional volume control available in software.

Works on...

• All Amigas (except the a1000) fitted with Kickstart 1.2 and Workbench 1.2 or higher.
• Extra memory is not required, but full use will be made of extra hardware, like accelerators, flicker fixers, modems etc.

Help!

• We want you to get the most out of your system so we offer a comprehensive, free telephone helpline service to all registered users.

Updates...

• Since the hardware is a complete PC in its own right, all updates are completely software driven. Registered users can update at any time for a nominal fee to cover media and shipping costs.

'PC emulation is a contentious issue – but the KCS Power PC board is the only one to carry my personal recommendation. It is an excellent product that does all it claims and does it well.'– *comments Mark Smiddy, co-author of Mastering AmigaDOS 2.*

PRICE

Including MS-Dos/DOS-Help and on-board memory. **£219.95** incl. VAT/Carr.
Excluding MS-Dos, but including on-board memory. **£189.95** incl. VAT/Carr.
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Available from your local computer shop (If they haven't got it – Ask them why not!). Or direct from Bitcon Devices

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Compatibility is excellent but no-one can guarantee every single program available, therefore if your purchase depends on a particular program, please ask us first or send in a copy of the program. (With suitable S.A.E. if to be returned). Price subject to change without notice.

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EMC

Out of Africa?

Ben Pointer dons pith helmet and khaki shorts and sets out on a typeface safari

With all three Amiga professional DTP packages (PageStream, Professional Page and Saxon Publisher) now supporting Adobe Type 1 fonts, it surely wouldn't be long before the huge range of such typefaces available for the Macintosh and PC started to be converted, saved on to Amiga disks and peddled to Amiga desktop publishers.

Soft-Logik, the PageStream people, have made a large number available, but none of these has yet made the trip across the pond.

UK distributors have tried selling commercial fonts to Amiga owners, but few users have splashed out after discovering what the real world charges for commercial, professional quality typefaces, which can be anything from £25 each upwards.

You won't pay the price, so the distributors won't import them. Catch 22. This is a very short-sighted attitude which I hope will be rectified soon.

E M Computergraphic, bless their cotton socks, were quick to notice this trend and contacted US typeface designers Computer Safari with an eye to selling that company's wares to Amiga owners in this country.

The thinking was to keep them as inexpensive as possible, so fancy packaging and manuals have been dispensed with. Currently there are 24 disks all told, each containing three or four – or in one case five – typefaces.

Random

There's no particular logic that has decided which typefaces are on any one disk – by that I mean they have not been grouped into sets of serif, sans-serif, slab-serif, cursive (and so on) typefaces – instead, 50 typefaces have been randomly spread over disks 1 to 16 (three on each, except disk 12 which has five), and these 16 disks cost £7.99 each.

About half the typefaces in this cheaper collection fall into the decorative classification – letters made from things like planks of wood and building blocks, for example, or simply special designs that you would use now and again to create eye-catching effects on posters or advertisements.



PageStream 2.2 takes a while to load and render Type 1 typefaces, but the results are usually worth the wait

There are nine serif typefaces, including Book Demi (a bold version of Bookman) and the famous Bodoni and Quadrant. Alas there are no type families available – for instance there's the aforementioned Bodoni, but not Bodoni Italic, nor Bodoni Bold, nor Bodoni BoldItalic.

There are three typefaces that could loosely be classed sans-serif, but again no families; a Wild West slab-serif face; three symbols faces (two Dingbats and one for maths); and half a dozen fall into the cursive group, the style of typeface that imitates handwriting.

By design or accident there's at least one typeface on almost every disk that might very well come in useful one day. Plywood on disk 2 is probably the most eye-catching, but Export on disk 1, Stencil Caps on disk 3, Deco Font on disk 9, Floaters on disk 10 and Far East on disk 12 also stand out.

The Extra Bold sans-serif(ish) Stance typeface on disk 14 could be good for headings and the serif Gourda Olde Style on disk 16 might be used for body text.

Paint Brush on disk 4 would be useful for anything arty, Blocks on disk 2 for anything aimed at kids, Fab Fifties on disk 3 and Blaster Chrome on disk 9 for anything rock 'n' roll, Tuxedo on disk 15 for anything thirties.

The eight disks costing £12.99 each are priced higher because the faces on these disks are considered to be of greater aesthetic quality.

More than half are decorative, and there are indeed some wonderfully intricate designs like Patriot on disk 18 (made from stars and stripes), Plaques on disk 20 (made from a chain of interjoining lozenge shaped panels) and IceQuebe on disk 20 (with snow on it).



All the Computer Safari typefaces convert to Compugraphic format perfectly for use with Professional Page 2.1 and 3.0

Then there's Generations and Classic Trek on disk 21, and NCC1701A on disk 24 – I'm sure you can guess what these look like.

Famous

Egyptian Hieroglyphics on disk 17 is fun, and there's a version of the famous Copperplate typeface on disk 20. Wedding Text on disk 19 is just the ticket for your, erm, wedding invitations, but my favourite is Crazy Dazey on disk 22, which is a wobbly 60s-type decorative face covered in flowers.

Each disk is accompanied by a sheet showing the full character set of each typeface, plus information that tells you what key or keys to press to get certain characters – something that is particularly important for the symbol or Dingbat typefaces, but also for all the others because they contain the standard alternate foreign letters and symbols that aren't on the (UK) keyboard.

At between approximately £2.50 and £4.50, each these very high quality Computer Safari typefaces represent excellent value for money. Sure, they are more expensive than the PD/Shareware Adobe Type 1 typefaces available, but then you can be sure, for instance, that they all have a pound sign in the character set.

Using the typefaces

All the typefaces are provided in Adobe Type 1 format. These can be loaded straight into PageStream v2.1 and above. If you've got an older copy of PageStream, don't despair – all the necessary files are included that will allow you to use them with any version.

Professional Page 3.0 users can use the Font Manager that comes with that program to convert the Adobe Type 1 information into the necessary Compugraphic files, after which you'll be able to use them with Workbench 2.x as well as Professional Page. They all convert and load into Professional Page 2.1 and 3.0 without problem.

I had trouble trying to load them into Saxon Publisher. Some loaded fine, others failed with an "Incompatible font file" message. The Type 1 files appear perfect, and PageStream and Professional Page accept them all happily, so I guess this is a Saxon Publisher problem.

For good measure, the .PFM file for each typeface that Windows requires is thrown in, so anyone running Windows under PC emulation on the Amiga will be able to use them as well.

Product info

Computer Safari DTP typefaces
Sets 1-16 £7.99
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French with Asterix

Dave Winder looks at a host of new releases for CDTV, including an entertaining French tutor



First of all, I am afraid that the promised Almanac Special about Online Entertainment has had to be postponed. However, I hope to bring you this in the next month or two.

Some good news comes from Commodore, with the announcement of the CDTV "MultiMedia Pack". This is a CDTV bundled with a keyboard, disk drive and mouse, and selling for just £100 more than a bare CDTV at £599 (RRP).

Commodore are also offering a trade-in deal for the pack, allowing you to upgrade from an A500 to the new machine for just £399 if you part exchange your old machine.

RAM expansion

Also from Commodore comes the news that a 1Mb RAM expansion will be available by the time you read this. A hard disk should also be available soon – my information is that this may well be a 40Mb SCSI that uses the rear expansion slot of the CDTV.

If you can't wait for Commodore to produce these, and it may – as usual – be a while before they appear, then you could try contacting Almathera (081-683 6418) as they have been asked to produce a limited number of SCSI interfaces for the CDTV to allow external hard disks to be used.

Back on the software front, I have been trying three titles I recently received from EuroTalk Ltd. They are Learn French with Asterix, Disks 1 and 2, and Read with Asterix.

The Learn French disks are for doing just that, but in a very enjoyable and easily paced way. The disks contain lessons in the form of a story about Asterix spoken in modern French and well illustrated throughout.

You can also explore the home of Asterix and get to improve your French that way, and by checking over 1,500 vocabulary items. It has been proven that using a combination of memory aids is the best way to learn, and these titles provide just that with an hour of spoken French, 400 drawings, and accompanying French and English text.

Although I have not been able to fully test the claim yet, EuroTalk reckon that each disk can offer over 15 hours of study using all the options available.

I found it best to use the program in short periods of, say, an hour at a time. It is certainly helping me with my French, which was pretty awful before I started.

Read with Asterix is a straightforward story told in English. It uses the same blend of pictures, text and spoken voice to good effect. However, I am not that certain of the intended market.

It is listed as entertainment, but I have always thought that a story is much easier to read from a book than from a screen. To be fair though it has kept my girls (aged three and four) amused for an hour or two, and as such it has to be hailed as a success!

Language tutors

The Learn French with Asterix titles cost £34.99 each and Read with Asterix is £19.99. Also available soon are Spanish language tutors. EuroTalk Ltd are on 071-371 7711.

If you do choose to learn French with Asterix, and I heartily recommend it, then you may also want to consider the purchase of a nifty little gadget from MicroDeal. It is called the Voice Master, and is a wonderfully clever way of getting your voice into the CDTV.

Consisting of a very small black box about 2/3 the size of a cigarette packet and a microphone, the box plugs into the CDTV parallel port, and that is all there is to it.

The only titles I know of so far that actually support this little tool are the Learn French with Asterix ones. There is a section called S'Enregistrer which allows you to record a phrase, and then play it back and compare it with the spoken French on the disc.

The Voice Master is a very good idea, but its success really will depend on the ability to get CDTV developers interested enough to support it.

At the moment it almost worth buying to accompany the Asterix discs as it only costs £19.95 – if more titles appear that make use of it then it will become a must-have at a bargain price. MicroDeal can be contacted on 0726 69692.

I can be contacted by Email as dwindera@cix or by leaving a message in the Amiga Computing Echo on FidoNet.

Compact Fish

Everyone has been saying that what the CDTV needs to really take off is a "killer" application. That is, something that people will want to buy a CDTV (or an A570/A670 for that matter) to be able to use.

Perhaps not a killer application strictly speaking, but certainly a damn fine reason for purchasing a CDTV is available now. Called CDPD, and published by Almathera Systems, it is a wonderful idea that has been tried before but not to this standard of perfection.

For just £19.95 you get is a CD packed with over 600Mb of PD and shareware programs. In fact CDPD contains Fred Fish disks 1 to 660 – that's right, all of them.



But more than that, it also contains a database that allows you to quickly find the program you want, and best of all Workbench 1.3 and Workbench 2.04, the correct version loading depending on what version of Kickstart you have in your machine. It can also be used as a boot disk.

It's all on the one disk and costing only £19.95, which sounds almost too good to be true, but it is.

It would cost well over £1,000 to buy all these disks from a PD company, and that is more than the cost of CDPD and a CDTV put together! It is the first CDTV title that the mastermind behind CDPD, Massimiliano Guidi – known to his friends as Max for obvious reasons – has been involved with. Upgrades will be available for a reduced rate if you register when you purchase the CD.

Max spent an entire day checking the whole of the disk thoroughly for viruses, so you can be sure it is virus free.

CDPD is going to bundled with the A570 in Germany. Let us hope that Commodore UK show the same good sense and bundle it with the UK version. Almathera Systems are on 081-683 6418.

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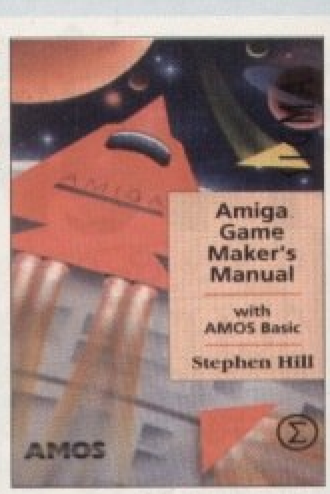
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GAME MAKER'S MANUAL

Amiga Game Maker's Manual – with AMOS Basic

by Stephen Hill



Stephen is the author of Sigma's best-selling *The Game Maker's Manual* for the Atari ST - and he's the author of the new AMOS (Amiga Operating System) Manual, so nobody is better placed to write this book.

The creator of AMOS, Francois Lionette, has produced the most powerful games programming system. With it, Amiga games equivalent to such best sellers as Xenon 2 and Blood Money can be produced – it's so straightforward that many people will buy an Amiga simply to run AMOS Basic.

The contents include: Game planning - graphic design, mock-ups and sprites; Shoot-'em-ups - high speed AMOS sprites, fire control, collision detection, background animation; Simulations - from simple 3D movement to flight simulators; Role playing - characters, scenarios and magic; Adventure games - plans, rooms and commands; Animation, scrolling, sound and 3D; Links to assembler. Numerous tested, working programs illustrate the book.

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The Trojan Amiga compatible lightpen can be used as a complete replacement for the mouse in many applications. Particularly useful in drawing and design, the two button pen provides the user with a very direct method of control.

This package also includes KWIKDRAW - a lightpen compatible drawing program, plus a lightpen driver that allows the pen to be used with most programs that run from Amiga Workbench. The lightpen is also compatible with: *DPaint III and IV, Photon Paint, Workbench 1.2/1.3, Battlechess, Professional Page, Music-X and Audiomaster V2.*

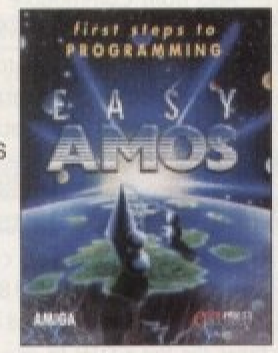
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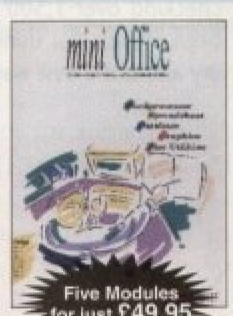
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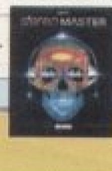
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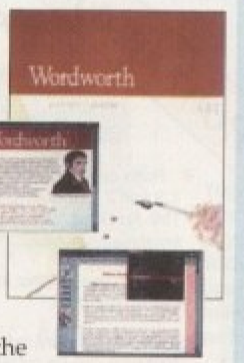
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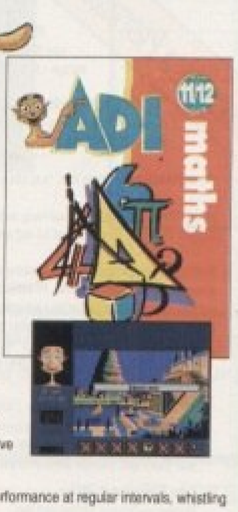
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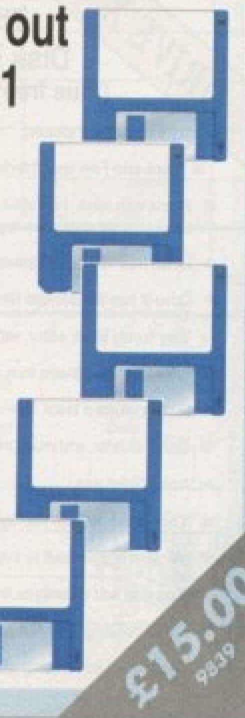
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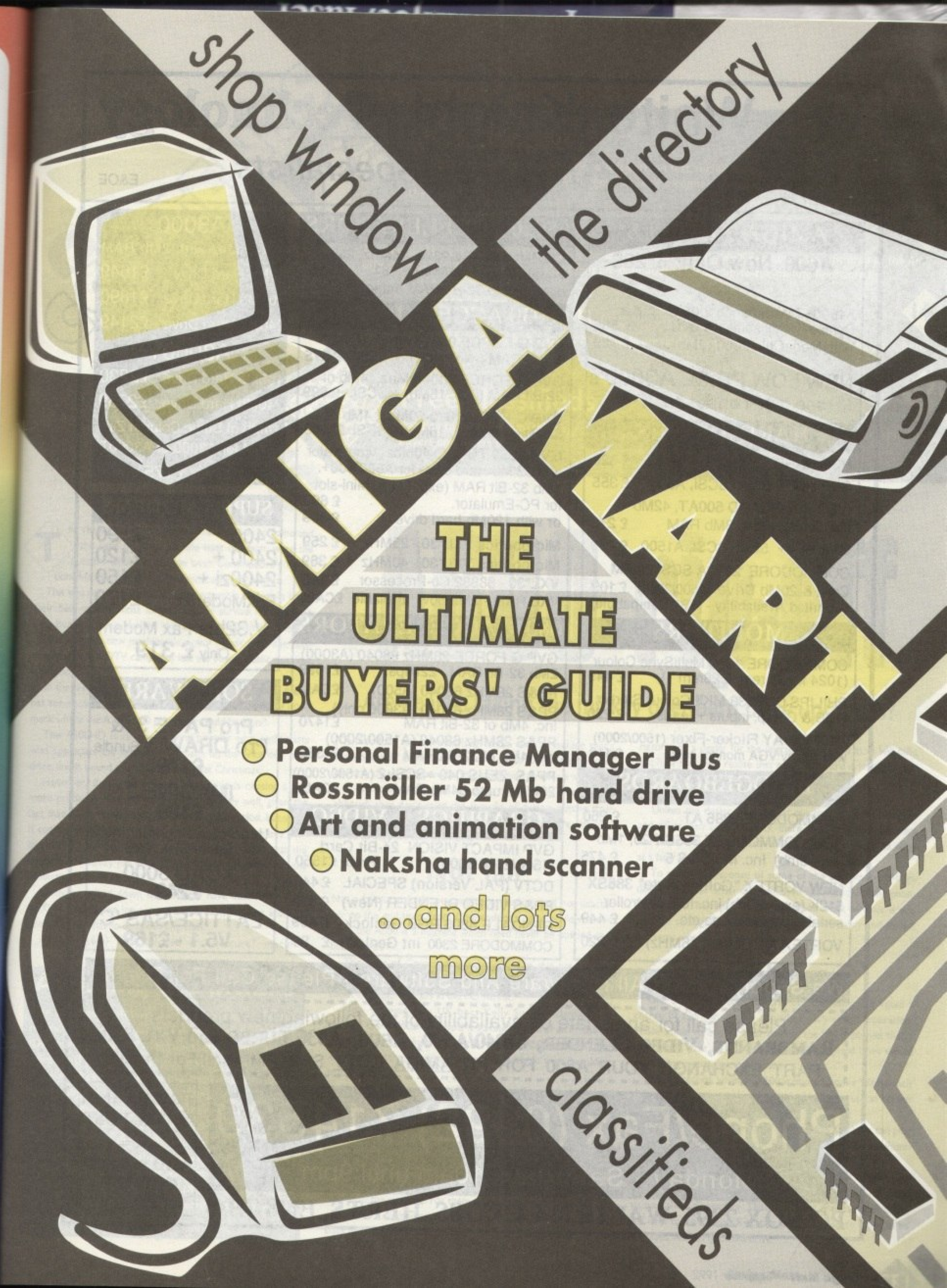
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CONTENTS

A-Z OF VFM

A600 rip-off

Are dealers taking the mickey over hard drive upgrades?

The recent release of the A600 was a boon to some and the bane of many, not the least of whom were the punters whose confusion over Commodore's intentions for the Amiga reached almost terminal heights.

This was compounded by the mad scramble of dealers doing their best to stay afloat long enough to survive Mr Lawson's blip. Bundles, price slashes, third-party competition, and the release of three new machines in a year (never mind the constantly shifting CDTV campaign) left the buying public lost in a whirlpool of doubt.

In the resulting mêlée, a standard hard drive-equipped Amiga has somehow slipped into the range at well below the £1,000 mark where the A2000 HD previously could be found.

The A600HD is already proving popular with enthusiasts who appreciate the savings to be made on the price of a hard drive, and is bound to go like hot cakes at Christmas.

However, the A600 without hard drive is causing a few more problems. This model is selling relatively well, given the fact that it was released in the summer quiet period, but when it comes to upgrading the hard drive or installing one in a non-hard drive machine, owners are beginning to realise that the third-party industry has a less than consistent approach to the problem.

Dealers up and down the country have been selling the A600 in both guises for some months now, but few seem to have decided what to do about upgrades.

As the A600 is a "closed architecture" machine (Commodore will have nothing to do with a machine that's been opened), dealers who fit hard drives for their customers can only do so if prepared at the same time to offer a warranty.

Commodore have no third-party warranty system, and although they don't mind the thought of dealers putting their own 40Mb and 80Mb drives into the A600, they are not prepared to support such activities.

Not fair

Not a helpful attitude, you might be thinking, and not exactly fair on the end user. From Commodore's point of view, however, the A600 is a machine which need never be opened and fiddled with.

The crux of Commodore's argument in this area is the PCMCIA slot (the "smart card" slot) which is supported by about 70 manufacturers in the PC market.

New Commodore UK boss Kelly Sumner claims that because the PCMCIA standard is so much more of an industry-wide format, and the DMA bus on the old A500 was not, the A600 is if anything potentially more expandable than the older machines.

In the future, assuming A600 sales take off to the extent that PC manufacturers realise the machine exists, many more hard drives and so on could be available for the A600 than were ever available for the A500. So much for the hopeful future, but what about now?

Over the next year there will be many A600 owners feeling the urge to take advantage of the hard drive interface already built in to the machine. For them there will be only a handful of options, as Commodore's only solution is likely to be an A590-style hard drive external add-on. Going to a third-party manufacturer or a dealer for the upgrade is the path most will take, but how many will realise that even if the hard drive is fitted at an official Commodore dealer, the Commodore warranty will still be void?

Unless the dealer who carries out the fitting explains this and offers their own warranty, there could be many upgraders out there who receive nasty shocks if the A600 pops its clogs at a later date.

To test the response of some of the best known Amiga dealers and mail order companies, *Amiga Mart* did some phoning around. The replies to our questions about whether it was possible to upgrade and how to do it were many and varied, but some were just plain ridiculous.

Cobblers

One company offered to carry out the fitting, but asked a charge of £55 for what is actually a very simple operation. When asked to explain their pricing, the rep explained that a chip would have to be replaced before the hard drive would work. This is complete cobblers.

For the record, when an A600 is booted from a Workbench disk, the Kickstart version number which pops up on screen will be either 37.300 or 37.350.

Those with machines with 37.300 revision Kickstart can plug in any type of IDE drive except Seagates. The bug-fixed revision 37.350 machines will accept any IDE drive.

Only a very few early A600s, according to Commodore, may have been shipped with Kickstart 37.299, which does not support the IDE interface. These machines, if any are out there, will have to have a new Kickstart chip fitted before they can be upgraded with an IDE hard drive.

Avoiding the pitfalls

The best guide for frustrated upgraders at the moment is to check out the prices of half-height 2.5in IDE drives in the PC magazines, then compare the prices with any quotes you receive from Amiga suppliers – they may be upping their margin. Don't accept any nonsense about replacing chips and so on.

If a company tries to charge more than £15 for fitting, including postage, and will not guarantee a warranty for at least the hard drive if not the rest of the machine, take your custom elsewhere.

If they fully explain what warranty is available, how much it costs, and offer to sell the hard drive for you to fit yourself, so much the better, as they will at least be giving you the choice.

Classifieds

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Amiga Mart's monthly guide to the latest Amiga products

Personal Finance Manager

I'm not sure if my bosses were dropping subtle hints when they gave me this package. I don't really mean it when I say that I'm not being paid enough.

Personal Finance Manager Plus is an attempt to stop the mindless squandering and that horrible "where's it all gone?" feeling.

It's an acquired art, managing money properly, a miracle if you're like me, so anything that is geared towards stopping the spread of this affliction is welcomed with open arms.

PFM+ is a pleasure to use. One thing I cannot stand is finance programs that presume because you are in a position to manage your own finances you will be bothered to sit down and spend five hours learning how to use the sodding thing.

PFM+ is simple but to get the full use out of it, it's worth sitting down and checking through the manual.

After you have booted up the main program you are presented with icons for PFM+, and a couple of other utilities. Below these icons there are ten individual account boxes waiting for your disastrous input.

These ten different accounts contain different cells similar to a spreadsheet for you to input your various financial transactions like building society payments and home spending.

If you have trouble adding up all the spending you've already done there is a desktop calculator at your disposal. Entering the data for your account is simple, just a case of pointing and clicking on the correct cell. Once all the information is in there you can produce the various charts.

Michtron couldn't have got any more features into PFM+ if they had tried. Each file can hold up to ten accounts which should be enough for anybody. It can set standing orders up for you so when the payments are due they will automatically be deducted.

You can also produce graphs of your account, I didn't dare do mine, it's depressing enough without seeing a graph of my nose-diving financial situation. The graphs range from bar charts to trend graphs that illustrate the increase or decrease (unlikely) of bills. My graph was showing a trend to spend too much money.

PFM+ is the only personal finance program you will ever need. There are one or two good ones out on PD but none so powerful or easy to use. But you have to pay for quality – £39.95 is the asking price, but it's well worth it all the same.

Supplier: Microdeal
Phone: 0726 68020
Price: £39.95

Rössmoller Hard Disk

Following hard on the heels of the Ashcom simple start drive comes the Rossmoller 52Mb Quantum which is just easy to set up with out having to mess around with formatting, partitions and so on. Once you have taken the drive out of its packaging all you have to do is plug it into the side of your 500 and you're away. It only has the very bare bones of a Workbench installed upon it, just enough to make it boot up, so it's advisable to install Workbench 1.3 on it as soon as you can.



Rossmöller, boring but beefy

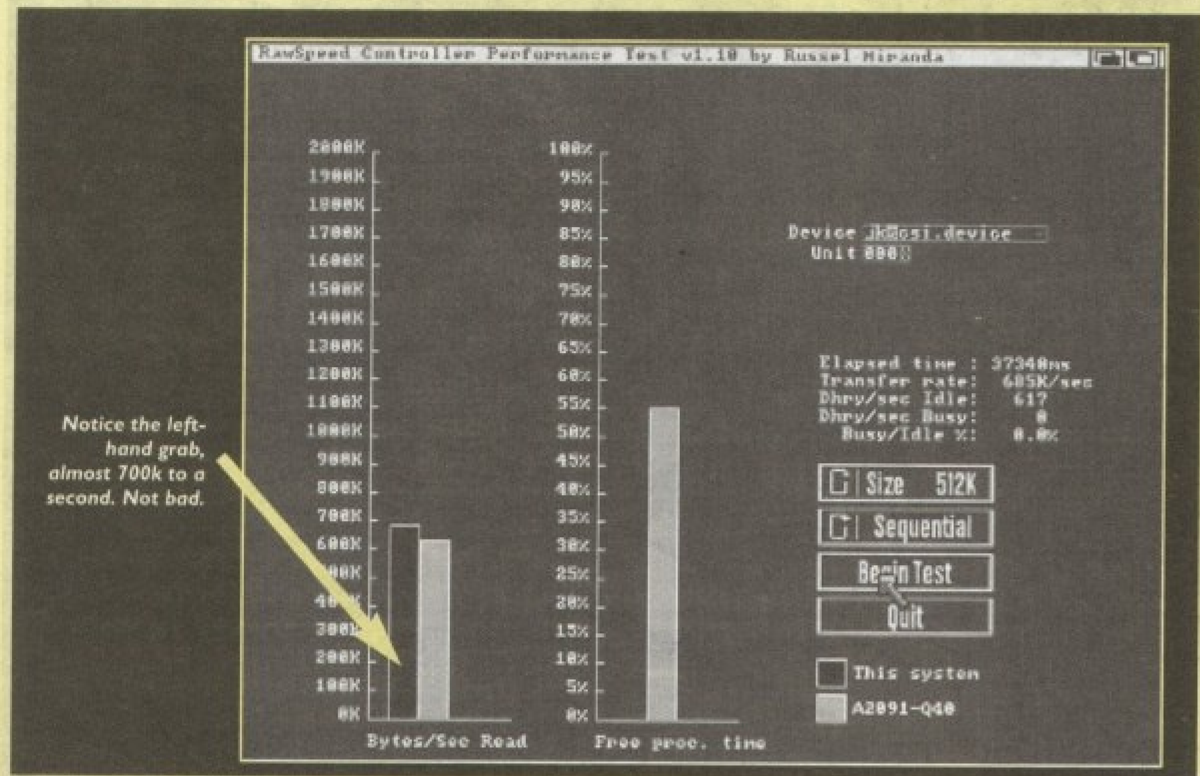
The machine itself is a pretty uninspiring piece of hardware to look at – no markings or anything, but looks are deceiving. We clocked the Rossmoller at about 668k/sec in a speed test which is pretty fast – Ashcom's drive was a damn sight slower than that.

Ashcom are asking £265 for their little 45Mb number. The Rossmoller is a little more expensive at £319.99 but you do get 52Mb, extra speed and a through-port, all of which the Ashcom is sadly lacking. The Rossmoller is a SCSI drive but for some reason it has no SCSI port.

The one major drawback with the Rossmoller drive is the lack of a power supply – this means that it has to run off the Amiga's. This drainage of power can cause all sorts of problems, the main one being the appearance of many a Guru Meditation error message, those infuriating cryptic messages that come up in red when your system crashes.

My superiors were a little dubious about the drive because of the lack of LEDs and power supply but I loved it. It seems that manufacturers are finally realising that not everyone in the Amiga world knows it all.

Supplier: Sysons Associates
Phone: 081-907 2100
Price: £319



Notice the left-hand grab, almost 700k to a second. Not bad.

In the Can

Apart from winning first prize in the "worst dressed software package" competition, In The Can hasn't got much to say for itself.

This is the most over-priced, sad and outdated insult to the public's intelligence ever to hit the Amiga market. It's surprising that items like this which are so outrageously priced are allowed to go on sale. Firstly, the video, although being quite

➤

informative, is pretty useless really because of the lack of back-up from the software.

Then we have the software, a single pink disk that has all the allegedly spectacular effects stored on it. I found this quite odd – three video titling programs on one disk, most bogus.

As soon as you've booted up the package you're greeted with a chooser menu which is typical of any PD package you care to lay your hands on. It's relatively easy to use but it goes downhill rapidly from there.

The first program I used from of the package was the allegedly spectacular zooming text – spectacularly bad that is. It's all controlled from a click menu at the bottom of the screen.

There are 16 different frames in which you put all the text, the effects and the delay time of the frame before it moves to next.

Fine, it's easy to use, but all the fonts look like Star Trek refugees – amusing until you want to do something other than retitle your old Star Trek videos.

Choosing the colours for the typeface is almost as fun – three stomach-turning mixes and seven boring shades of the primary colours is all it supports which limits it even more.

Now for the spectacular zooming. Basically it's the text flying from background to foreground while twirling in various different ways, all of which have been done before, and better.

The vertical scroller I did like. It lets you do the rolling credits at the beginning or end of a film. I was pleasantly surprised at the fonts which are quite clear and sensible – a lot better than the zooming text program. Smooth as the scrolling down the screen was, it did get a little jerky in the slower mode.

The last program on the package is a horizontal scroller that allows you to flow text across the screen. Its probably quite useful for soundtracked films, but its application is very limited. Like the vertical scroller the fonts were quite good, sensible and very adaptable to most themes.

Technically the program's a disaster – too high in price for people to buy it for novelty use on home video and nowhere near professional enough to be taken as a serious contender when viewed next to packages like Scala 500 or The Big Alternative Scroller (BAS).

It probably would have done quite well as a PD package but £60 quid is a horrendous price to ask for a program which is completely outdated.

Supplier: Fun Factory Promotions
Phone: 0734 817421
Price: £59.95

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Naksha Scanner

The Naksha scanner is one of the best I've seen. All aspects of its function are outstanding in every way. Right from the very beginning it looks promising.

The packaging is a very snazzy little carry box which is padded inside and out to prevent your pride and joy getting smashed should you drop it or accidentally hurl it off a block of flats.

Now assuming you are only ever going to use your scanner in one place, the box comes with instructions to turn it into a disk box. Very posh once I'd got through the packaging I almost forgot about the scanner.

The scanner itself is a pretty unimpressive looking piece of hardware, It looks like every other scanner that's been released in the last 12 months, like something off Star Trek.

In the box with the hardware is the software, an interface and a power supply. The interface plugs into the side of your 500. It should be stressed at this point that the scanner is also available in 2000 and 600 versions.

Along with the interface is a power supply, which is a relief – it means that when in use the scanner will not put a drain on the Amiga supply. Hardware that does use the Amiga supply often prompts the appearance of the Guru Meditation errors simply because of the drain.

On the scanner itself there are a number of buttons which control the final image. The switch shader lets you set how much depth you want on the finished article, so if you're dealing with a colour image it's probably better to use a higher shader setting so it will distinguish between the colours better.

There is a contrast dial which allows you to set how much ➤

Keyboard Interface

Okay be honest, who hates the Amiga keyboard for typing? Yes I do too. This is an ingenious little device that lets you use another keyboard.

It works by plugging into the motherboard where the standard keyboard should plug – just unplug the keyboard ribbon and put the new one in.

Then you need to feed the ribbons out of the machine and plug your extra AT-200 key keyboard into the port provided.

The hardware itself is a pretty unimpressive piece – it's a little black box sporting two LEDs, a ribbon at one end and a keyboard port at the other. The two LEDs on the box take the place of the LEDs on the original Amiga keyboard that show the power and disk activity.

It worked perfectly when we tried it with a standard PC keyboard – a little slow, maybe, but it did the job. This little gadget is the perfect addition for anybody who uses the Amiga frequently for writing.

Supplier: Sysons Associates
Phone: 081-907 2100
Price: £29.95



Shop Window

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of the shading will actually show up on the scan. Those dreaded three letters, dpi – which mean dots per square inch – also have a switch dedicated to them.

This lets you can change the resolution of the image between 200 and 400dpi. Oh, and there is also a start button, which without it wouldn't be much use.

Quality wise we were very impressed. The range of different contrasts and depth of shade that could be achieved was outstanding compared to some of the other scanners we've reviewed.

We tried all sorts of scans when testing it, from photos taken from a normal camera to scanning in pages out of a magazine. It does take a bit of fiddling around to get the right effect.

When you're happy with the scan you can save it in a number of formats – PIX, TIFF (which is the default) and 256 greyscale, which is almost up to the standard of newspaper quality scans.

On saving you can crunch the files down to a respectable size. If you've never worked with graphics before you will soon realise that graphic files sizes are usually gargantuan. After crunching you should be able to save a good few scans to floppy disk, but a hard drive is advised.

The software you get with the scanner is called Touch Up. Apart from the name which sounds a little suggestive it's a very nice and simple to use package which has all the scanner control on easy access with the mouse.

Although Touch Up is crammed with features, it doesn't do anything new apart from a nice little utility that lets you choose how many colours to convert to greyscale from a colour image.

Once your image is scanned in to your satisfaction you can manipulate it as you like. Touch up has four zoom modes in which you can view the image.

Usually your image will look pretty ropy when first scanned in but just take a peek at it in the interlace greyscale mode. You then should get a pretty good idea what the image will look like when printed.

For some reason when viewing in the greyscale mode it displays the image in a very small section – if the image is quite large you must scroll around it with the mouse.

There is one problem with the image viewing – it eats memory. I was working on a 2Mb 500 and occasionally had trouble viewing a full A4 length, but this is unavoidable unless you have a machine with a big memory.

Together with its software, the Naksha scanner is pretty unbeatable



Supplier: Naksha
Phone: 0925 56395
Price: £99.99

Alpha Data Mouse

You just can't keep these rodent-like input devices down. Alpha data really have gone a bundle on their new addition to the rodent masses and have brought out The Mouse from Hell.

First off, it's an optical mouse which means that it has no tracking ball in the casing. All the movement is gauged by sensors on the bottom of the mouse. What's the point, I hear you cry?

Well there are a few advantages to these little devils which make them better than normal mice, not least that they will probably last longer than your normal mechanical mouse because they have no moving parts.

In the package you get a mouse, a house and a mat. The mat is a very important part of the package – without it your mouse will do no scurrying whatsoever. Covering the mat are hundreds of dots – the sensors pick these up and judge the movement .

It's a very good reliable shape. In the round up we had last month there were some pretty bizarre ones but the classics are always the best.

Buttons are something we usually moan about on mice but this one can apparently take over 1,000,000 clicks so by my reckoning your finger should have fallen off before the mouse fails.

The specifications of the Alpha mouse are very high indeed – 300dpi and a tracking speed of 600m/s makes it one of the fastest and most accurate mice I've seen.

Mice of this standard are ideal for art packages but aren't really necessary for the average pointing-and-clicking you would do for every day use of the Amiga.

Personally I think it missed its vocation – it should have been an SAS member. Check one out for yourself.

Supplier: Golden Image
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A-Z OF VFM

Software spotlight

The Amiga can bring professional-standard animation capabilities to your home. We look at what's available, and advise you on the best buys

Disney Animation Studio

Coming from the past masters of animation, you'd think this program would be the best around. That it doesn't quite make it to the top of the ladder, however, shouldn't put off the potential animator.

DAS is made up of three programs, one for creating pencil drawings, one for colouring the finished animation, and another for synchronising the anim with sound effects and other clips of animation. In effect, it works in a similar manner to the real animators, a fact that the manual is at pains to point out.

In terms of features, DAS can stand up there with the likes of DPaint, but it is most definitely a non-HAM package designed for cartoon drawings.

The onion skin feature, enabling the artist to see the last three cells through the present cell, is ideal for creating smooth animations, but if you want a spinning logo or a HAM animation, try another package.

As a paint package, DAS does well enough, if not brilliantly, but where it scores very highly is in its dedicated nature. Budding Disney's can learn a great deal about the animator's art from this package, helped by some wonderful Disney demonstration anims, so it is easily the best package for the educational environment.

Disney Animation Studio
Available from Entertainment International
Price £79.95
Score 8/10

Deluxe Paint 4

Though a little slow as a HAM paint package, DPaint has been many things since the release of v3, not the least of which is probably the best animation program available on the Amiga.

Version 4's improvements to the already powerful animation section have simply reinforced the package's position.

Animators can now use a "light table" similar to the Disney "onion skin" to enable the creation of smooth animations, and all animation controls, such as Frame Advance and Add Frame have been gathered together on a VCR-style panel for easier control.

In addition, there is now a morphing feature which can transform one brush into another over a series of frames, and though painfully slow, this feature can be a great aid when animating.

As usual, the DPaint perspective controls and move requester are still available, the latter of which has given birth to countless rotating, tumbling logo animations. As an overall package for the animator, DPaint 4 is number one.

DPaint 4
Available from Electronic Arts
Phone 0753 549442
Price £89.95
Score 9/10

Spectracolor

Basically a HAM paint package, Spectracolor was the first of its kind to offer animation, and has a few extra features which help the program give DPaint a run for its money.

Morphing is one, a feature which Spectracolor boasted many months before DPaint 4 was released, but the brush wrapping is Spectracolor's most unique tool. This enables the user to pick up a brush then "wrap" it around a sphere, cube, or one of the seven basic shapes supported, to produce quire remarkable effects for a program in this price bracket.

There are a few drawbacks with Spectracolor, of course, and the main one is that it is HAM only. If you want to produce an eight colour anim you can, but it will just be an eight-colour HAM anim, which means slow refresh rates and wasted memory.

To add to this, the animation controls are a little difficult to come to terms with, so unless the unique features are desperately required, Spectracolor is best used as a static image generator.

Spectracolor
Available from Oxxi Inc
Phone 0752 551888
Price £65.99
Score 7/10

If you want to keep in touch with the Amiga scene and the software that makes it tick, this is the place to start.

Every month we'll look at a different area, supplying the essential advice that any would be buyer will find indispensable. This month we'll concentrate our efforts on art and animation.

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Take 2

A very new product and one which is designed more as an animation finisher than something in which to create the entire anim. For this reason the paint facility is limited.

Instead, the animator creates cells and, more importantly, plans which key cells will be used more than once in another package, then ports them across to Take 2 for editing.

Once the cells are available, Take 2 can go to work on them using its powerful dope sheet and video scripting utilities.

The former enables the correct timing of when a frame will be played and allows the setting up of complex routines to mix and match frames, use them more than once, and generally harangue them into a sequence.

Video scripting enables the correlation of scenes and sequences as one large anim ready to be taped to video.

The most powerful feature of the program, however, has to be its ability to run four-level line tests. This means that the animator can have up to four separate animations going on at once in the same screen, and can edit or cut any one of them at any time.

It is the sort of feature usually found only in professional packages costing hundreds, or even thousands, of pounds, and could lead to Take 2 making an appearance in commercial studios as a valuable and very cheap line tester.

Take Two
Available from Rombo
Phone 0506 466601
Price £95
Score 9/10

Animation Station

A package with certain similarities to Take 2, Animation Station manages to sit on its own as an animation editor and special effects generator.

Like Take 2, Animation Station is designed to be used once all animation cells are complete. At this stage, the user loads the sequence into Animation station, and uses the power of the package to combine animations, tack other on at the end, swap frames around, and assign times for the exposure of individual frames.

Special effects, such as wipes, resizing, scrolling, and others can be added across a user-defined number of frames, making it possible for the user to create professional cuts and edits in a computer cartoon.

Animation Station supports all Amiga resolutions and screen modes, including interlace and overscan, so it is a great tool for use in conjunction with one of the more traditional paint and animate packages.

Animation Station
Available from Marcam
Phone 0604 790466
Price £99.95
Score 8/10

Hard Times

Every month, a selection of some of the best Value For Money hardware bargains to be found in *Amiga Computing*. True at-a-glance shopping for all our readers. Remember – if you are a supplier and you can beat these prices, let us know!

NEXT MONTH

More of your best buys. They don't go in unless you tell us about them, so if you see a better buy, or can beat those shown, get on the phone to:

Amiga Mart VFM
0625 878888

HARD DRIVES

Make	Capacity	RAM upgrades	Compatibility	Game switch	Thru-port	PSU	RRP	AC price
Trilogic								
Dataflyer	45	Y	500/500+	N	N	N	259.99	
Dataflyer	45	Y	500/2000	N	N	N	229.99	
Dataflyer	105	Y	500/500+	N	N	N	389.99	
Dataflyer	105	Y	500/2000	N	N	N	359.99	
Hawkwell Electronics								
GVP	52	Y	500E+	Y	Y	Y	399.95	379.95
Magneto Optical	128	-	A500	N	N	Y	1,199	1,150
Magneto Optical	128	-	1500/2000	N	N	N	999	950
A600Internal	40	-	A600	N	N	N	375	350
Supra 500xp	52	suppl. with 1Mb	A500	-	Y	Y	380	375
Gasteiner								
Gasteiner	52	Y	All	Y	Y	Y		349
Gasteiner	105	Y	All	Y	Y	Y		599
Audition Computers								
GVP	105	Y	A500+		Y	Y	-	439.99
Delta PI Software								
Supra Wordsync	52	N		-	Y	-	-	239
Supra Wordsync	105	N		-	Y	-	-	379
GVP HC8 A2000	52	Y	-	-	-	-	-	279
GVP HC8 A2000	120	Y	-	-	-	-	-	419
GVP HD8 A500	52	Y	-	-	-	-	-	349
GVP HD8 A500	120	Y	-	Y	-	Y	-	469
ADD								
Addhard	45	Y	Y	N	y	N	265	265
Addhard	70	Y	Y	N	Y	N	345	345
Addhard	105	Y	Y	N	Y	N	395	395
Addhard	205	Y	Y	N	Y	N	495	495

A-Z OF VFM

RAM BOARDS

Make	Capacity	On/off switch	Chip upgrade	Internal /external	Compatibility	RRP	AC price
Trilogic							
Trilogic	1Mb	N	Y	Int	500+	49.99	39.99
Baseboard	0.5-4Mb	N	Y	Int	500/500+		79.99 – 199.99
Dataflyer RAM	1-8Mb	N	Y	Int	1500/2000		89.99 Unpopulated
Hawkwell Electronics							
Virgo v500	0.5Mb	Y	Y	Int	500	-	24.95
Virgo v500+Clk	0.5Mb	Y	Y	Int	500	-	29.95
Power PCR1.5	1.5Mb	Y	Y	Int	500	99.95	89.95
Virago V4000	4Mb	Y	Y	Int	500	198	198
Power 16chip	0.5Mb	Y	Y	Int	500	24.95	19.95
Power 16chip+clock	0.5Mb	Y	Y	Int	500	29.95	24.95
Power 1.5Mb	1.5Mb	Y	Y	Int	500	85	79.95
Power 1.5Mb	1.5Mb	Y	Y	Int	500	89.95	69.95
Analogic Computers							
ADD	A500/0.5Mb+clk	Y	Y	Ext	100	-	24.95
ADD	A500/0.5Mb	N	Y	Ext	100	-	34.95
ADD	A500/1Mb	N	Y	Ext	100	-	54.95
Power Computing							
Power	A500/0.5Mb+clk	Y	Y	Int	500	29	-
Power	A500/0.5Mb	Y	Y	Int	500	24	
Power	A500/+/0.5Mb+clk	Y	N	Int	500	24	-
Power	A500/+/0.5Mb	Y	N	Int	500	19	-
Power	A500/1.5Mb	N	Y	Int	500	79	-
Power	A500/1 Mb	N	Y	Int	500	49	-
Power	A500/1Mb	N	Y	Int	500	39	-
Power	A500/8Mb	N	Y	Int	500	2Mb 129	
						4Mb 189	
						8Mb 299	
Power	A500/2Mb	N	Y	Ext	500	99.95	
	With Clock1Mb	-	-	Trap	A600	49	
	Without Clock1Mb	-	-	Trap	A600	45	
Delta PL Software							
Supra Ram 2000	2-8Mb	N	N	Int	-	149	
Supra Ram 500rx	2-8Mb	Y	-	Ext	-	149	
Pheonix A600	-	-	Trap	-	-	-	
Gasteiner							
Alfa Data	0.5Mb	Y	N	Int	A500	29.95	26
Alfa Data	2.0Mb	Y	1Mb	Int	A500	149	99
MemoryMaster	8Mb	-	-		Int	A500	129
Audition							
A600Ram Ex1	Mb	N	Y	Trap	A600	55	
Phoenix							
A500+	1Mb	-	-	-			39.99
A500 Keybd ROM sharer	-	-	-				34.99
A500 ROM Sharer	-	-	-				24.99
Amiga 2.04 upgrade	-	-	-				79.99

A-Z OF VFM

Hard Times

TOP 10

Every month the *Mart* picks the best from the rest in our top ten hardware and software chart...

1	Rossmoller 52Mb Quantum H/D	£319	Sysons Associates
2	A600 with software bundle	£299	Commodore UK
3	Naksha mono scanner with software	£99	Naksha
4	A600 1meg expasion with clock	£49.95	Power Computing
5	Quik replacement mouse	£13.99	Phoenix
6	Supra 2400 modem	£79.99	First Choice
7	Adobe type one fonts, five disks	£12.50	EMC Compugraphic
8	DataFlyer 40meg hard drive	£229	Trilogic
9	Power 8Mb expansion for the 2 meg A500	£129	Power Computing
10	DPaint IV	£54.99	Dynamite Computers

FLOPPY DRIVES

Make	On/off switch	Thru-port	Single/double drv	RRP	AC price
Trilogic					
Roclite RF382c	Y	Y	Single	69.99	55.99
Cumana	Y	Y	Single	119.99	99.99
Cumana	Y	Y	Single	69.99	58.99
Analogic Computers					
Zydec	Y	Y	Double	-	59.95
Hawkwell Electronics					
Citizen or Epson	N	N	Internal A500	69.95	49.95
Power 880E	Y	Y	External anti-click	59.95	59.95
Power880DD	Y	Y	As above X2	119.95	119.90
PowerDual	Y	Y	Double	125	99.95
Gasteiner					
Gasteiner	Y	Y	Double	79.95	59.95
Power Computing					
PC880E	Y	Y	Double	49.95	-
PC880B	Y	Y	Double	69.95	-
Audition Computers					
Cumana CAY-354	Y	Y	Single	78.22	52.99
Power 880B	Y	Y	Single	69.99	67.99
Delta PI Software					
Roctec Roclite	Y	Y	Single	-	59.95
Phoenix					
Delux drive	Y	Y	Single	-	47.99

SCANNERS

Make	Type	Scan area (mm)	Max DPI	Colour/Mono	RRP	AC price
Trilogic						
Zylec	Hand	105	400	Mono	99.99	94.99
Audition Computers						
Power	Hand	105	-	Mono	-	99.99
Power Computing						
Power Scan	Hand	-	400	Mono	99	-
Delta PISoftware						
Alfa-Data	Hand	-	400	Col	-	139
Alfa-Data	Hand	-	400	Col	-	249
Golden Image						
Alfa Data	Hand	-	400	Mono	199.99	149
Alfa-Data	Hand	-	400	Mono	299	239
Phoenix						
Epson GT-6000	-	-	-	Col	989.99	

GENLOCKS

Make	S-VHS compsite	Thru-port	RRP	AC price
Marrcam LTD				
Rendale 8802	Y	-	-	139
Rendale 8802 fmc	Y	-	-	178
Rendale Super 8802	Y	-	-	499
Syntronixs				
Genmaster	Y	Y		
Dynamite				
Rocgen	Y	N	-	84.99
Rocgen Plus	Y	Y	-	129
Audition				
BM 2300	N	Composite	N	-
Phoenix				
RhomboVIDI	-	-	-	99.99

WIN WIN WIN WIN

- Do you intend to buy a new computer in the next 12 months?
  - Yes
  - No
- If yes, please state which one ____________
- How much do you intend to spend on your computer and related products in the next six months?
  - Up to £25
  - Over £50
  - Over £100
  - Over £200

PART 3 – YOU AND AMIGA COMPUTING

- Where do you obtain your copy of Amiga Computing?
  - Newsagent
  - Home delivery from newsagent
  - Subscription
  - Read friend's or relative's copy
- Do you ever have any difficulties in obtaining your copy of Amiga Computing?
  - Yes
  - No
- If yes, what are they? ____________
- About how long do you spend reading an issue of Amiga Computing in the month before the next issue comes out?
  - Up to ½ hour
  - ½ hour up to 1 hour
  - 1 hour up to 1½ hours
  - 1½ hours up to 2 hours
  - 2 hours up to 3 hours
  - 3 hours or more
- How much of Amiga Computing do you regularly read?
  - Everything
  - Half or more
  - Roughly half
  - Very little
- How many people, apart from you, read or look at your copy of Amiga Computing?
  - None
  - One
  - Two
  - Three
  - Four
  - Five or more
- What do you like most about Amiga Computing? ____________
- What do you dislike about Amga Computing? ____________
- Which has been your favourite issue to date? ____________
- Why? ____________
- Do you consider Amiga Computing to be good value for money
  - Yes
  - No
  - Sometimes
- Do you purchase Amiga Computing for:
  - The coverdisk only
  - Mostly for the coverdisk, but also for the magazine
  - For both the coverdisk and the magazine equally
  - Mostly for the magazine, but also for the coverdisk
  - The magazine only
- How much extra would you be willing to pay for a second disk?
  - Nothing
  - 50p
  - 75p
  - £1
- Please rate the following editorial items from Almanac in order of interest, one to eight – one being of the most interest.
  - ARexx
  - Multimedia
  - Music
  - Programming
  - DTV
  - Comms
  - DTP
  - Amos
  - I am not interested in any of the above
- Would you like to see more, or less or the following in Amiga Computing? Indicate preference with + (for more) or -
  - News
  - Hardware reviews
  - Software reviews
  - Disk coverage
  - Letters
  - Technical advice
  - Public domain
  - Games
  - Buyers' section
  - Special roundups
  - General interest articles
- How far is your choice of software and peripherals influenced by Amiga Computing?
  - A great deal
  - A little
  - Not at all
- How much influence did the Amiga Gamer section have on your decision to purchase this copy of Amiga Computing?
  - A great deal
  - A moderate amount
  - A small amount
  - None at all
- Would you like us to devote more pages to Gamer?
  - Yes
  - No
- How important to you is games coverage in Amiga Computing?
  - Not at all
  - Important
  - Very Important
- Do the games reviews in Gamer influence your decision when purchasing games?
  - Yes
  - No
- How does the content of Amiga Gamer compare with the following Magazines' games sections?

	Better	Same	Worse	Don't know
Amiga Action				
Amiga Format				
CU Amiga				
The One for Amiga				
Amiga User Int				
Amiga Fun				

- What improvements would you like to see in Gamer? ____________
- How would you rate the following types of game?

	Very Interesting	Quite Interesting	Not very Interesting	Boring
Action				
Puzzle				
Adventure				
War/strategy				
Role playing				
Other				
None				

PART 4 – YOU AND OTHER MAGAZINES

- Which of the following magazines do you read – please also indicate whether you buy them or read someone else's copy

	Read	Buy	Read someone else's
Amiga Action			
Amiga Power			
The One Amiga			
C&VG			
Amiga Format			
Amiga Shopper			
Computer Shopper			
Amiga Computing			
Amiga Fun			
Zero			
Ace			
Amiga User Int			
CU Amiga			

- To what extent do the following elements influence your choice of magazine?

	A lot	Slightly	Not at all
Front cover			
Coverlines			
Cover illusration			
Single cover disc			
Double cover disc			
Free supplement			
Other cover gift			
Gamer hakpak			

- How important is a shopping section in the magazine to your purchasing decision?
  - Not at all
  - Important
  - Very Important
- Please state how you think the Amiga Mart section could be improved ____________
- Would you like to see more or lewer pages in the Mart section?
  - More
  - Fewer
  - Same
- Have you ever sold or purchased something through our Classifieds page?
  - Yes
  - No
- How would you rate the different parts of Amiga Mart

	Very good	good	not bad	useless
Editorial Page				
Software Spotlight				
Hard Times				
Classifieds				
Shop Window				

To enter this Free Prize Draw all you have to do is return this questionnaire, fully completed, to Europress Enterprise, Europa House, Adlington Park, Macclesfield SK10 4NP and fill in the box below with your details.

Name..

Address..

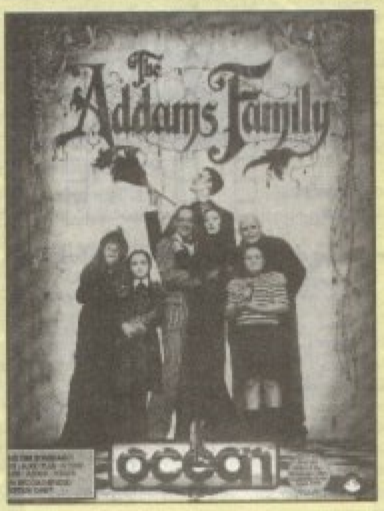
....

.... Postcode .... Tel No............................

WIN WIN WIN WIN

HUNDREDS OF £££'s WORTH OF GAMES

in our amazing Free Prize Draw sponsored by



They've got the creepiest house in town! They're the spoookiest Family around! As Gomez you must find your loopy loved ones in their spooky mansion. They have the gookiest friends ever! Watch out for Tully Alford. If you solve the puzzles and follow the clues you might just save the Adams Family so that they can haunt like a good family should!



More than 30 events create the most comprehensive computer simulation of the classic 'Games' ever! This has it all – management, databases, skill, judgement, strategy and arcade action! You can even compare your performance with those of previous record holders!

It's so easy! All you have to do is fill in this questionnaire

We want to make sure that we are providing you with exactly what you want for your hard earned pennies. This is your chance to make Amiga Computing work for you!

PART 1 – Getting to Know You!

- How old are you?
  - 16-23 ☐
  - 24-34 ☐
  - 35+ ☐
- Which sex are you?
  - Male ☐
  - Female ☐
- Marital status
  - Single ☐
  - Married ☐
- What income bracket are you in?
  - Student ☐
  - Under 10k ☐
  - 10k-15k ☐
  - 15k+ ☐
- Do you have children?
  - Yes ☐
  - No ☐
- Are you a home owner?
  - Yes ☐
  - No ☐
- Do you have a drivers' licence?
  - Yes ☐
  - No ☐
- Do you have any of the following qualifications?
  - 'O' Levels ☐
  - 'A' Levels (or equivalent) ☐
  - HND (or equivalent) ☐
  - Degree (or equivalent) ☐

PART 2 – You and Your Amiga

- What Amiga system do you have?
  - A500 ☐
  - A500+ ☐
  - A600 ☐
  - A1000 ☐
  - A1500 ☐
  - A2000 ☐
  - A2500 ☐
  - A3000 ☐
  - A3000T ☐
  - CDTV ☐
- What memory does your system have?
  - ½ meg ☐
  - 1 meg ☐
  - 2 meg ☐
  - 4 meg ☐
  - 8 meg ☐
  - Other (please state) ______
- What hardware do you own / intend to purchase over the next six months?

	own	intend to purchase
Extra floppy drive	☐	☐
Hard Disk	☐	☐
Memory upgrade	☐	☐
Printer	☐	☐
Genlock	☐	☐
Digitiser	☐	☐
Sampler	☐	☐
MIDI set up	☐	☐
CDTV	☐	☐
CD-Rom drive	☐	☐
Printer	☐	☐
Monitor	☐	☐
Accelerator card	☐	☐
Emulator	☐	☐

- Which are you using :
  - TV ☐
  - Monitor ☐
- If you are using a monitor what type are you using? ______
- Have you bought shareware or public domain software in –
  - The last month ☐
  - The last six months ☐
  - The last year ☐
  - Never ☐
- How regularly do you purchase new games?
  - Less than one a month ☐
  - One a month ☐
  - Two-three a month ☐
  - Three-five a month ☐
  - More than five a month ☐
  - Don't buy games ☐
- How much time do you spend on your computer per day?
  - Less than one hour ☐
  - Up to two hours ☐
  - Up to three hours ☐
  - Up to four hours ☐
  - Up to five hours ☐
  - Five hours or more ☐
- How long have you had your current computer?
  - Less than one year ☐
  - Up to two years ☐
  - Up to three years ☐
  - Three years or more ☐
- Is this your first computer?
  - Yes ☐
  - No ☐
- If no please state which one you owned before ______

VISION, SOUND AND ANIMATION FROM ROMBO THE WORLDS BIGGEST AND BEST



MEGAMIX MASTER — SOUND SAMPLER

Real Time Digital Effects

OVERVIEW

MEGAMIX master is a high specification, low cost digital effects cartridge that plugs into your printer port. Special stereo effects such as echo can be added in real time.
You will find **Megamix Master's** performance and ease of use unmatched by any rival. Just plug it in and go...

Some of the Features include:
- *Thru port for printer or digitiser.
- *Fully multi-tasking.
- *Intigrated 3.5mm jack plug and lead.
- *3D Animated icons.
- *Compatible with Workbench 2.0.
- *Both Mono and Stereo sampling.

Real Time Digital Effects include:

ECHO-Adds echo to incoming sound.
PHASER-Applies space age phase shift.
SYNTH-Adds user definable effects.
DIRECT-Plays incoming sound direct.
VIBRATO-Rapidly varies frequency.
STEREO ECHO-Adds digital delay between L & R speakers.

Other Menu's include:

REMIX (with many sampling features).
EDIT (for sample manipulation).
DISK (for saving and loading etc).

Workbench 2.00 Compatible.

£39.95 Inc.

JUST LOOK AT THE SPEC.

American Software (U.S.A.)	(217) 384 2050
Arkofoto (Spain)	(34) 3301 0020
Centresoft (U.K.)	(44) 021 6253388
Darius Soft (Austria)	(43) 123 4555
Gem Distribution (U.K.)	(44) 0279 442842
Goldhill Associates (Export)	(44) 081 9062009
H.B. Marketing (U.K.)	(44) 0753 686000

VIDI AMIGA 12 — IMAGE CAPTURE

4096 Colour Images

OVERVIEW

Vidi-Amiga 12 is the ultimate low cost colour digitiser for Amiga. There are no filters and no separate RGB splitter. Colour images can be captured in less than a second, mono images are grabbed in real time. Fully compatible with any video source.

Some of the features include:
- *Multi-tasking software.
- *Advanced error diffusion stippling.
- *Cut and Paste with masking.
- *Capture into a user definable window.
- *Load and save IFF ILBM and ANIM files.
- *Grab frames flipped on a X or Y axis.
- *Multi frame store with animated playback.
- *Composite or S-Video input.

Display in the following resolutions:

PAL	NTSC
320 x 256	320 x 200
320 x 512	320 x 400
640 x 256	640 x 200
640 x 512	640 x 400

Supports several screen modes:
- 4096 HAM mode.
- 64 EHB mode.
- 32 colours.
- 16 colours.
- 16/8/4/2 shade mono.
- 262000 HAM-E mode.
- 256 colour EREG mode.
- Overscan/Interlace/Hi-Res.

Image Processing and Enhancement:

Sharpen/Smooth/Negative/Quantise
Thresholding/Solarization/Mosaic
Edge Detection/Brush selected area.

Workbench 2.00 Compatible.

COLOUR IMAGE CAPTURE FOR ONLY

£99.95 Inc.

Rombo Ltd., Kirkton Campus, Livingston
SCOTLAND EH54 7AZ
Tel: (44) 0506-414631 Fax: (44) 0506-414634
Sales Hotline: (44) 0506-466601

TAKE 2 — ANIMATION

Professional Animation with Optional Image Capture

OVERVIEW

Take 2, as used in *"Rolfs Cartoon Club"* is the ultimate multi-level animation package. Offering up to 4 levels of animation and 4 levels of sound. Images are drawn within your favourite art package then loaded into Take 2 as IFF files. If you own Vidi-Amiga you can digitise your drawings from within Take 2. We believe its much easier to draw with a pencil than with a mouse.

Some of the features include:
- Compatibility with all Amigas.
- Supports 2, 4, 8, 16 and HAM colour.
- Loads or saves IFF or ANIM files.
- Traditional animators dope sheet.
- Play back up to 25 frames per second.
- Dubbing or simulated onion skin.

and lots more !!!

Applications:
- Traditional animation.
- Storyboards.
- Product presentation.
- Line tester.
- Stop frame animation.
- Cartoon productions.
- Education.
- 3D object animation.
- Video production.

Workbench 2.00 Compatible.

£49.95 Inc.

AS SEEN ON TV

Merlin Grafx (Austria)	(43) 5223 8896
Micropace (U.K.)	(44) 0753 55188
Precision Distribution (U.K.)	(44) 081 5433500
Scibis Sprl (Belgium)	(32) 2245 8307
S.D.L. (U.K.)	(44) 081 3095000
Soundware SRL (Italy)	(39) 3322 32670
V.C.S. (Holland)	(31) 1045 11537